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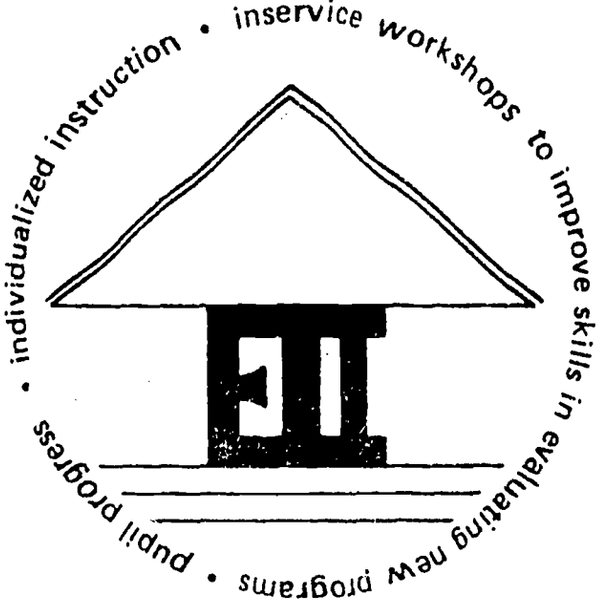
ABSTRACT

The Objective-Item Bank presented covers 16 sections of four subject areas in each of four grade levels. The four areas are: Language Arts, Math, Social Studies, and Science. The four grade levels are: Primary, Intermediate, Junior High, and High School. The Objective-Item Bank provides school administrators with an initial starting point for curriculum development and with the instrumentation for program evaluation, and offers a mechanism to assist teachers in stating more specifically the goals of their instructional program. In addition, it provides the means to determine the extent to which the objectives are accomplished. This document presents the Objective Item Bank for junior high science. (CK)

JUNIOR HIGH SCIENCE
BEHAVIORAL OBJECTIVES AND TEST ITEMS

EVALUATION FOR INDIVIDUALIZED INSTRUCTION

A Title III ESEA project
administered by
Downers Grove, Illinois
School District 99



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	Lang. Arts	Math.	Soc. Stud.	Science
Primary				
Intermediate				
Junior High				X
High School				

JUNIOR HIGH SCIENCE

BEHAVIORAL OBJECTIVES AND TEST ITEMS

by Dr. Marcus Lieberman, Director
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Evaluation for Individualized Instruction Project

AN ESEA TITLE III PROJECT

Administered

by

Downers Grove Public School District 99

BACKGROUND

The Evaluation for Individualized Instruction Project, an ESEA Title III project administered by the Downers Grove, Illinois, School District 99, has developed an Objective-Item Bank covering sixteen sectors of four subject areas in each of four grade levels.

Subject Area

	LA	MA	SS	SC
1	11	12	13	14
2	21	22	23	24
3	31	32	33	34
4	41	42	43	44

LA = Language Arts
MA = Math
SS = Social Studies
SC = Science

1 = Primary
2 = Intermediate
3 = Junior High
4 = High School

Nearly 5000 behavioral objectives and over 27,000 test items based on these objectives were recently published as the culmination of this three-year project. The complete output of seventeen volumes totals over 4500 pages. These publications have been reproduced by the Institute for Educational Research to make them available at cost to teachers and administrators.

The objectives and items were written by over 300 elementary and secondary teachers, representing forty Chicago suburban school districts, who participated in workshops of three to nine weeks duration throughout the project. In these workshops they learned to write effective behavioral objectives and test items based on the objectives. The results of their work were edited for content and measurement quality to compile the largest pool of objectives and test items ever assembled.

PRINCIPLES AND MERITS

Unfortunately, the Objective-Item Bank is often viewed mainly as a source of test items. Although this is an important function, its greatest potential impact lies not in the availability of a multitude of test items, but rather in the ability of these items to measure carefully selected educational goals.

The almost frenetic search for test items on the part of some educators has been spurred by the current emphasis on measurement. Some educators have become so enamored with measurement that they seem more interested in obtaining a numerical index than examining what they are really trying to measure. Further, it is

not unusual for teachers to speak about a child obtaining a score of 95% on a particular test. Frequently, they encounter considerable difficulty in interpreting the real meaning of a score and are content to just accept its numeral value. A much more important question would seem to be: What are our goals of measurement? Unless we can answer this question precisely, the only real purpose that testing serves is to gather data concerning pupils to facilitate the marking of report cards. This is not to say that this function is not legitimate - it is rather to say that such a view of measurement is much too constricting. The goal of measurement should be to provide feedback both to the teacher and the child regarding the success or failure of the learning experiences in realizing specifically stated objectives.

One of the main strengths of the EII Objective and Item Bank is that all the items are directly tied to specifically stated objectives. Each group of items is designed to measure a specific objective and therefore provides the means whereby the teacher can obtain feedback on the success of the educational program.

It is disheartening to observe so many districts attacking the complex problem of curriculum development independently. One cannot help reflecting on the mammoth duplication of efforts involved. The Objective-Item Bank offers a possible alternative to this duplication. Utilizing its resources, the curriculum committee is provided with some point of departure. The efforts of three hundred teachers participating in the Evaluation Project's workshops and the thoughts of forty districts can be evaluated and utilized. This is not to suggest that any set of objectives should be viewed as the "answer" to an individual district's curricular problem but rather the efforts of others offer a convenient point of departure and may serve to stimulate diverse opinions about the direction of curricular thrust within the individual district. The words of Sir Isaac Newton seem appropriate; "If I have seen further, it is by standing upon the shoulder of giants." The efforts of others, whether we consider them giant-like or pygmyish, do offer a threshold to view the immense, complicated problem of curricular development in better perspective.

The title of an article in a recent educational journal, "If You're Not Sure Where You're Going, You're Liable to End up Someplace Else," succinctly describes a continuing dilemma in our educational system. The vagueness of our goals often promotes the idea that "anything goes." Without a guiding beacon many classrooms become activity-centered rather than goal-oriented. One educator recently compared the all-too-typical classroom with Henry Ford's observation concerning history. He defined history as, "One damned thing after another." Is this true of the succession of activities within our classrooms? Does the teacher really know the educational purpose of each activity? Perhaps, even more importantly, do the children know the purpose?

The Objective-Item Bank offers a mechanism to assist teachers in stating more specifically the goals of their instructional program and further provides the means to determine the extent to which the objectives are accomplished. The specification of goals assists the teacher in discovering whether favored activities advance learning, or are merely time fillers; whether they get the "materials" across, or are merely perfunctory exercises.

Much discussion has been devoted to the topic of "why individualized instruction?" and occasionally some dialogue has even centered on the "how." But an even more basic question is one that is often ignored: "Individualize what?"

Many school districts mention their individualized programs in reading or mathematics. What is individualized within these programs? Are certain skills definitely identified? Is the practice of pretesting to determine the child's level of proficiency when he enters the program a guideline?

The Objective-Item Bank has two potential contributions to make to all school districts embarking on or presently engaged in individualized instruction programs. These contributions are: 1. A group of well-specified objectives which could form the "what" of the program. 2. A set of items designed to provide information on the degree of mastery of the objective.

APPLICATIONS AND TECHNIQUES

The versatility of the Objective-Item Bank is evident in the value and usability by both teachers and administrators.

To the Administration the Objective-Item Bank:

1. Provides an initial starting point for curriculum development. The existence of many objectives avoids the necessity of each district duplicating the efforts of another. The task of the curriculum committee becomes one of selecting and/or rejecting objectives from the Objective - Item Bank and then supplementing them with objectives developed at the local level. Past-participants of the Evaluation Project workshops would be valuable resource people in this endeavor.

2. Provides the instrumentation for program evaluation. The selection of items from those objectives representative of the main emphases of the local district provides the framework for the evaluation of the stated goals.

To the Teacher the Objective-Item Bank:

1. Provides the pooling of talent and imagination of teachers of varied experience and interests, thus avoiding the present duplication of effort.

2. Provides resources for more highly sensitized program evaluation instead of a battery of standardized tests. Since the objectives are tailored to the program, the associated test items can be used to determine precisely the efficacy of the instructional materials.

3. Provides the means whereby the teacher can become more acutely aware of that which he is seeking to have occur in his classroom and that which he will accept as evidence of its occurrence. Hopefully, as teachers become more aware of their goals, they will share these

objectives with children and let the pupils become acutely aware of that which is expected of them, ergo allowing them to seek their own modality of instruction for the realization of the stated goals.

4. Provides the nucleus of an individualized instruction program.

   a. It provides for more precise curriculum planning by differentiating those goals specific to each grade and even to each student. With the bank at their disposal, teachers are encouraged to become aware of their responsibilities in developing a set of basic objectives which every child must attain and a further set which can be pursued according to the students' abilities and interests.

   b. It provides several items per objective, some of which may be used as a pre-test to discover whether a student should undertake that objective while the remainder may be employed to measure the mastery of those students who do tackle the objective.

NOTES

Several of the volumes have been reproduced from punched cards by the IBM 407, a machine which does not print all characters exactly as they appear on a typewriter. Thus:

% is actually (

¤ is actually)

0 is actually ? or !

Apostrophes cannot be printed.

The number immediately after the statement of each objective represents the number of items measuring attainment of that objective.

Information on the EII publications or purchase requests can be directed to:

INSTITUTE FOR EDUCATIONAL RESEARCH
1400 West Maple Avenue
Downers Grove, Illinois 60515

RESPIRATORY SYSTEM

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE RESPIRATORY SYSTEM BY IDENTIFYING DEFINITIONS AND FUNCTIONS OF PARTS OF THE SYSTEM. %79□ 0001

DIRECTIONS
SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE COMPLETE PROCESS OF GETTING AIR INTO AND OUT OF THE LUNGS IS CALLED 0079
A. INSPIRATION.
B. INHALING.
*C. BREATHING.
D. EXPIRATION.

BREATHING IS THE PROCESS OF 80
*A. TAKING AIR INTO AND OUT OF THE LUNGS.
B. TAKING AIR INTO THE LUNGS.
C. GETTING RID OF WASTES.
D. GETTING AIR OUT OF THE LUNGS.

BREATHING INCLUDES 81
A. INGESTING AND DIGESTING.
*B. INHALING AND EXHALING.
C. INCULCATING AND EXCULPATING.
D. INGESTING AND MASTICATING.

BREATHING INCLUDES 82
*A. INSPIRATION AND EXPIRATION.
B. INGESTION AND MASTICATION.
C. INGESTION AND DIGESTION.
D. INCULCATION AND EXCULPATION.

INHALING AND EXHALING MAY PROPERLY BE CALLED 0083
*A. BREATHING.
B. EXPIRING.
C. OXIDATION.
D. ALVEOLATION

INSPIRATION AND EXPIRATION MAKE UP WHAT MAY PROPERLY BE CALLED 0084
A. OXIDATION.
B. ALVEOLATION.
C. EXPIRING.
*D. BREATHING.

THE LIFE PROCESS IN WHICH OXYGEN IS TAKEN INTO THE BODY AND CARBON DIOXIDE IS RELEASED IS CALLED 0085
A. INSPIRATION.
B. OXIDATION.
C. EXHALATION.
*D. RESPIRATION.

RESPIRATION MAY BE DEFINED AS THE PROCESS OF 0086
*A. TAKING OXYGEN INTO THE BODY AND RELEASING CARBON DIOXIDE.
B. TAKING NITROGEN WASTES FROM THE BLOOD.

C. TAKING CARBOHYDRATES INTO THE BODY AND RELEASING CARBON MONOXIDE.
D. CHANGING FOOD FROM A SOLID TO A LIQUID.

TO SOME PEOPLE RESPIRATION MEANS 87
A. OXIDATION.
*B. BREATHING.
C. EXPIRATION.
D. EXHALING.

THE CHEMICAL CHANGE IN WHICH CELLS GET ENERGY FROM FOOD BY USING OXYGEN AND GIVING OUT CARBON DIOXIDE IS CALLED 0088
A. EXPIRATION.
B. OXIDATION.
C. INGESTION.
*D. RESPIRATION.

BRFATHING MAY BE CALLED 89
A. INSPIRATION.
B. OXIDATION.
*C. RESPIRATION.
D. EXHALING.

RESPIRATION IS DEFINED AS THE CHEMICAL CHANGE IN WHICH 0090
*A. CELLS GET ENERGY FROM FOOD BY USING OXYGEN AND GIVING OUT CARBON DIOXIDE.
B. FOOD IS PRODUCED BY USING CARBON DIOXIDE AND WATER AND GIVING OFF OXYGEN.
C. FOOD IS BROKEN DOWN INTO CARBON, HYDROGEN, OXYGEN AND NITROGEN.
D. ENERGY IS RELEASED FROM FOOD BY USING WATER AND CARBON MONOXIDE.

THE EXCHANGE OF GASES %CO_2 AND O_2 WHICH TAKES PLACE IN THE ALVEOLI OF THE LUNGS IS CALLED 91
A. EPIDERMAL RESPIRATION.
*B. EXTERNAL RESPIRATION.
C. CELLULAR RESPIRATION.
D. INTERNAL RESPIRATION.

IN EXTERNAL RESPIRATION THERE IS AN EXCHANGE OF GASES %CO_2 AND O_2 0092
*A. IN THE ALVEOLI OF THE LUNGS.
B. IN THE CELLS OF THE SKIN
C. IN THE NOSE.
D. IN THE PHARYNX.

THE EXCHANGE OF OXYGEN AND CARBON DIOXIDE BETWEEN THE CELL AND THE BLOOD IS CALLED 0093
A. ALVEOLAR RESPIRATION.
B. EXTERNAL RESPIRATION.
C. EPIDERMAL RESPIRATION.
*D. INTERNAL RESPIRATION.

IN INTERNAL RESPIRATION THERE IS AN EXCHANGE OF 0094
*A. OXYGEN AND CARBON DIOXIDE BETWEEN THE CELL AND THE BLOOD.
B. CARBON MONIXIDE BETWEEN THE ALVEOLI AND THE CELLS.
C. CARBON DIOXIDE BETWEEN THE CILIA AND THE CELLS.
D. CARBON MONIXIDE BETWEEN THE RED BLOOD CELLS AND THE WHITE

BLOOD CELLS.

THE AIR SACS OF THE LUNGS ARE CALLED 95
A. BRONCHI.
B. BRACHEA.
C. CILIA.
*D. ALVEOLI.

ALVEOLI ARE 96
A. FINGER-LIKE PROJECTIONS IN THE SMALL INTESTINE.
B. TINY LIVING HAIRS IN THE AIR PASSAGES.
*C. AIR SACS IN THE LUNGS.
D. GRANULES WITHIN THE NUCLEI OF BLOOD CELLS.

CILIA ARE 97
A. FINGER-LIKE PROJECTIONS IN THE SMALL INTESTINE.
B. TINY LIVING HAIRS IN THE AIR PASSAGES.
C. AIR SACS IN THE LUNGS.
*D. GRANULES WITHIN THE NUCLEI OF BLOOD CELLS.

THE TINY LIVING HAIRS THAT LINE THE AIR PASSAGES ARE CALLED 0098
A. BRONCHI.
B. VILLI.
C. ALVEOLI.
*D. CILIA.

THE FUNCTION OF CILIA IS 99
A. TO KEEP FOOD FROM GOING DOWN THE WINDPIPE.
B. TO AID IN THE ABSORPTION OF FOOD.
*C. TO SWEEP DUST AND OTHER UNWANTED MATERIALS UP AND OUT OF THE AIR PASSAGES.
D. TO ALLOW FOR THE EXCHANGE OF OXYGEN AND CARBON DIOXIDE BETWEEN AIR AND THE BLOOD.

THE FUNCTION OF THE ALVEOLI IS 100
*A. TO ALLOW BLOOD TO GIVE UP CARBON DIOXIDE AND TAKE ON OXYGEN.
B. TO SWEEP DUST AND OTHER UNWANTED MATERIALS UP AND OUT OF THE AIR PASSAGES.
C. TO ABSORB DIGESTED FOOD INTO THE BLOOD STREAM.
D. TO KEEP FOOD FROM GOING DOWN THE WINDPIPE.

WHEN AIR IS BREATHED IN, IT FIRST GOES INTO 0101
A. THE SEPTUM.
B. THE PHARYNX.
*C. THE NOSE.
D. THE GLOTTIS.

THE SCIENTIFIC NAME FOR THE VOICE BOX IS 0102
A. PHARYNX.
*B. LARYNX.
C. ALVEOLUS.
D. VILLUS.

THE LARYNX IS COMMONLY KNOWN AS 103
A. THE WINDPIPE.
B. THE FOOD TUBE.
*C. THE VOICE BOX.
D. THE THROAT.

THE SCIENTIFIC NAME FOR THE THROAT IS 0104
A. LARYNX.

B. ESOPHAGUS.
C. TRACHEA.
*D. PHARYNX.

THE PHARYNX IS COMMONLY CALLED 105
A. THE WINDPIPE.
*B. THE THROAT.
C. THE VOICE BOX.
D. THE FOOD TUBE.

THE OPENING OF THE LARYNX THROUGH WHICH AIR ENTERS IS CALLED 0106
*A. THE GLOTTIS.
B. THE PHARYNX.
C. THE EPIGLOTTIS.
D. THE TRACHEA.

THE GLOTTIS IS THE OPENING 107
A. OF THE BRONCHI.
*B. OF THE LARYNX.
C. OF THE ESOPHAGUS.
D. OF THE ALVEOLUS.

THE EPIGLOTTIS IS 108
*A. A FLAP OF TISSUE THAT COVERS THE GLOTTIS DURING SWALLING.
B. THE FLAP OF TISSUE THAT KEEPS FOOD FROM GOING INTO THE THE THROAT DURING CHEWING.
C. THE OPENING OF THE LARYNX.
D. THE OPENING OF THE ESOPHAGUS.

THE FLAP OF TISSUE THAT COVERS THE OPENING OF THE LARYNX DURING SWALLOWING IS CALLED 0109
A. THE PHARYNX.
*B. THE EPIGLOTTIS.
C. THE GLOTTIS.
D. THE ESOPHAGUS.

THE TRACHEA IS COMMONLY CALLED 110
A. THE THROAT.
B. THE FOOD TUBE.
*C. THE WINDPIPE.
D. THE VOICE BOX.

THE SCIENTIFIC NAME FOR THE WINDPIPE IS 0111
A. ESOPHAGUS.
*B. TRACHEA.
C. PHARYNX.
D. LARYNX.

IN ORDER THAT IT WILL NOT COLLAPSE THE TRACHEA IS SUPPORTED BY 0112
A. THE ESOPHAGUS.
*B. BANDS OF CARTILAGE.
C. MUSCLES ATTACHED TO THE STERNUM.
D. THE SYOID BONE.

THE SHEET OF MUSCLE SEPARATING THE CHEST CAVITY FROM THE ABDOMINAL CAVITY IS CALLED 0113
A. THE EPIGLOTTIS.
B. THE UVULA.
C. THE SOFT PALATE.
*D. THE DIAPHRAGM.

THE DIAPHRAGM SEPARATES 114
*A. THE CHEST CAVITY FROM THE ABDOMINAL CAVITY.
B. THE HEART FROM THE LUNGS.
C. THE TRACHEA FROM THE ESOPHAGUS.
D. THE STOMACH FROM THE LIVER.

THE TRACHEA DIVIDES INTO TWO TUBES CALLED 0115
A. ALVEOLI.
B. VILLI.
*C. BRONCHI.
D. GLOTTI.

THE PROCESS IN WHICH OXYGEN COMBINES CHEMICALLY WITH OTHER SUBSTANCES IS CALLED 0116
A. REDUCTION.
*B. OXIDATION.
C. COHESION.
D. CONDUCTION.

OXIDATION IS THE PROCESS IN WHICH 117
A. OXYGEN IS RELEASED FROM WATER.
B. OXYGEN IS TRANSFERRED FROM ONE MOLECULE TO ANOTHER.
C. AN OXIDE IS RELEASED FROM A CHEMICAL REACTION.
*D. OXYGEN COMBINES CHEMICALLY WITH OTHER SUBSTANCES.

THE MAJOR PART OF THE BREATHING MOTION IS PRODUCED BY 0118
A. THE HEART.
*B. THE DIAPHRAGM.
C. THE RIBS.
D. THE SPINAL COLUMN.

THE TUBES WHICH CONNECT THE TRACHEA WITH THE LUNGS ARE CALLED 0124
*A. ALVEOLI.
B. BRONCHI.
C. GLOTTI.
D. VILLI.

THE BRONCHI ARE TUBES THAT CONNECT 125
A. THE TRACHEA AND LUNGS.
*B. THE PHARYNX AND LARYNX.
C. THE LARYNX AND ESOPHAGUS.
D. THE ESOPHAGUS AND LUNGS.

THE TINY LIVING HAIRS THAT SWEEP DUST AND OTHER UNWANTED MATERIALS UP AND OUT OF THE AIR PASSAGES ARE CALLED 0126
*A. BRONCHI.
B. VILLI.
C. CILIA.
D. ALVEOLI.

THE PARTS OF THE RESPIRATORY SYSTEM WHICH ALLOW BLOOD TO GIVE UP CARBON DIOXIDE AND TAKE ON OXYGEN ARE CALLED 0127
A. CILIA.
B. VILLI.
C. BRONCHI.
*D. ALVEOLI.

BRINGING FRESH AIR INTO THE LUNGS IS CALLED 0128
*A. INHALING.
B. EXHALING.
C. INGESTING.

D. RESPIRATION.

FORCING USED AIR OUT OF THE LUNGS IS CALLED 0129
A. RESPIRATION.
B. INHALING.
*C. EXHALING.
D. INGESTING.

TAKING FRESH AIR INTO THE LUNGS IS CALLED 0130
*A. INSPIRATION.
B. EXPIRATION.
C. INGESTION.
D. RESPIRATION.

FORCING AIR OUT OF THE LUNGS IS CALLED 0131
A. INGESTION.
B. RESPIRATION.
*C. EXPIRATION.
D. INSPIRATION.

AIR COMING INTO THE BODY PASSES FROM THE NOSE TO THE 0132
*A. PHARYNX.
B. LARYNX.
C. ESOPHAGUS.
D. ALVEOLI.

FROM THE PHARYNX THE AIR CONTINUES TO 0133
A. THE TRACHEA.
*B. THE LARYNX.
C. THE ESOPHAGUS.
D. THE ALVEOLI.

FROM THE THROAT THE AIR CONTINUES TO 134
*A. THE VOICE BOX.
B. THE WIND PIPE.
C. THE AIR SACS.
D. THE BRONCHIAL TUBES.

THE BRONCHIAL TUBES CONNECT 135
*A. THE WIND PIPE AND LUNGS.
B. THE THROAT AND VOICE BOX.
C. THE VOICE BOX AND FOOD TUBE.
D. THE VOICE BOX AND THE WIND PIPE.

FROM THE LARYNX THE AIR BREATHED IN GOES TO 0136
A. THE PHARYNX.
*B. THE BRONCHI.
C. THE ALVEOLI.
D. THE TRACHEA.

FROM THE VOICE BOX THE AIR BREATHED IN GOES TO 0137
A. THE THROAT.
B. THE BRONCHIAL TUBES.
C. THE AIR SACS.
*D. THE WIND PIPE.

INHALED AIR TRAVELS FROM THE TRACHEA TO 0138
*A. THE BRONCHI.
B. THE ALVEOLI.
C. THE PHARYNX.
D. THE LARYNX.

ON ITS WAY TO THE LUNGS AIR TRAVELS FROM THE WIND PIPE TO 0139
*A. THE BRONCHIAL TUBES.
B. THE AIR SACS.
C. THE THROAT.
D. THE VOICE BOX.

THE BRONCHI DIVIDE INTO SMALLER TUBES CALLED 0140
A. ALVEOLI.
*B. BRONCHIOLES.
C. ARTERIOLES.
D. VENULES.

ON ITS WAY TO THE ALVEOLI AIR PASSES FROM BRONCHI THROUGH THE 0141
A. ARTERIOLES.
*B. BRONCHIOLES.
C. ALVEOLI.
D. VENULES.

INHALED AIR GOES FROM THE BRONCHIOLES TO 0142
A. THE GLOTTI.
B. THE VILLI.
*C. THE ALVEOLI.
D. THE CILIA.

****

THE STUDENT WILL ANALYZE THE TOTAL CAPACITY OF THE LUNGS BY IDENTIFYING THE INDIVIDUAL PARTS AND THEIR FUNCTIONS IN THE BREATHING PROCESS. %16¤ 0002

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE AIR TAKEN INTO AND FORCED OUT OF THE LUNGS DURING NORMAL BREATHING IS CALLED 0147
A. SUPPLEMENTAL AIR.
B. COMPLEMENTAL AIR.
*C. TIDAL AIR.
D. VITAL CAPACITY.

TIDAL AIR IS THE AIR 148
A. REMAINING IN THE LUNGS AFTER A FORCIBLE EXPIRATION.
B. THAT CAN BE FORCIBLY EXHALED AFTER A FULL INSPIRATION.
C. THAT CAN BE FORCIBLY EXHALED AFTER A NORMAL EXPIRATION.
*D. TAKEN INTO AND FORCED OUT OF THE LUNGS DURING NORMAL BREATHING.

THE AIR FORCIBLY EXHALED AFTER A FULL INSPIRATION IS CALLED 0149
A. COMPLEMENTAL AIR.
B. RESIDUAL AIR.
*C. VITAL CAPACITY.
D. TIDAL AIR.

ONE,S TOTAL CAPACITY REFERS TO 150
*A. THE CAPACITY OF ONE,S LUNGS.
B. THE CAPACITY OF ONE,S STOMACH.
C. THE AMOUNT OF AIR THAT CAN BE EXPELLED FROM THE LUNGS.
D. THE AMOUNT OF BLOOD IN THE CIRCULATORY SYSTEM.

VITAL CAPACITY REFERS TO THE AIR 151

A. REMAINING IN THE LUNGS AFTER THE MOST FORCIBLE EXPIRATION.
*B. FORCIBLY EXHALED AFTER FULL INSPIRATION.
C. TAKEN IN AND FORCED OUT OF THE LUNGS DURING NORMAL BREATHING.
D. INHALED IN ADDITION TO ONE,S TIDAL AIR.

RESIDUAL AIR IS THE AIR 152
A. THAT CAN BE EXPELLED FROM THE LUNGS AFTER AN ORDINARY EXPIRATION.
B. INHALED IN ADDITION TO ONE,S TIDAL AIR.
*C. REMAINING IN THE LUNGS AFTER THE MOST FORCIBLE EXPIRATION.
D. FORCIBLY EXHALED AFTER FULL INSPIRATION.

THE VOLUME OF AIR REMAINING IN THE LUNGS AFTER THE MOST FORCIBLE EXPIRATION IS CALLED 0153
A. SUPPLEMENTAL AIR.
B. VITAL CAPACITY.
C. TIDAL AIR.
*D. RESIDUAL AIR.

SUPPLEMENTAL AIR REFERS TO THE AIR 0154
A. INHALED IN ADDITION TO ONE,S TIDAL AIR.
B. TAKEN IN AND FORCED OUT OF THE LUNGS DURING NORMAL BREATHING.
*C. THAT CAN BE EXPELLED FROM THE LUNGS AFTER AN ORDINARY EXPIRATION.
D. REMAINING IN THE LUNGS AFTER A FORCIBLE EXPIRATION.

THE AIR THAT CAN BE EXPELLED FROM THE LUNGS AFTER AN ORDINARY EXPIRATION IS CALLED 0155
*A. SUPPLEMENTAL AIR.
B. COMPLEMENTAL AIR.
C. RESIDUAL AIR.
D. TIDAL AIR.

COMPLEMENTAL AIR REFERS TO THE AIR 0156
*A. THAT CAN BE INHALED IN ADDITION TO ONE,S TIDAL AIR.
B. FORCIBLY EXHALED AFTER A FULL INSPIRATION.
C. THAT CAN BE EXPELLED FROM THE LUNGS AFTER AN ORDINARY EXPIRATION.
D. THAT CAN BE INHALED IN ADDITION TO ONE,S TIDAL AIR.

THE QUANTITY OF AIR THAT CAN BE INHALED IN ADDITION TO ONE,S TIDAL AIR IS CALLED 0157
A. SUPPLEMENTAL AIR.
B. RESIDUAL AIR.
C. TIDAL AIR.
*D. COMPLEMENTAL AIR.

VITAL CAPACITY EQUALS 158
A. TIDAL AIR & RESIDUAL AIR
*B. TIDAL AIR & COMPLEMENTAL AIR & SUPPLEMENTAL AIR
C. COMPLEMENTAL AIR & SUPPLEMENTAL AIR & RESIDUAL AIR
D. SUPPLEMENTAL AIR & COMPLEMENTAL AIR

THE CAPACITY OF ONE,S LUNGS IS CALLED 0159
*A. TOTAL CAPACITY.
B. TIDAL AIR.
C. SUPPLEMENTAL AIR.
D. RESIDUAL AIR.

TOTAL CAPACITY EQUALS 160
A. TIDAL AIR & RESIDUAL AIR
B. TIDAL AIR & COMPLEMENTAL AIR & SUPPLEMENTAL AIR
C. SUPPLEMENTAL AIR & COMPLEMENTAL AIR
*D. TIDAL AIR & SUPPLEMENTAL AIR & COMPLEMENTAL AIR & RESIDUAL AIR

TIDAL AIR & COMPLEMENTAL AIR & SUPPLEMENTAL AIR EQUALS 0161
A. RESIDUAL AIR
B. TOTAL CAPACITY
*C. VITAL CAPACITY
D. METABOLISM

TIDAL AIR & SUPPLEMENTAL AIR & COMPLEMENTARY AIR & RESIDUAL AIR EQUALS 0162
A. VITAL CAPACITY
*B. TOTAL CAPACITY
C. METABOLISM
D. BASAL METABOLISM

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THE STUDENT WILL UNDERSTAND THE ROLE OF THE DIAPHRAGM IN THE RESPIRATORY PROCESS BY IDENTIFYING CHANGES WHICH OCCUR IN THE SYSTEM AS A RESULT OF THE DIAPHRAGMIC ACTION. %5¤ 0003

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHEN THE DIAPHRAGM CONTRACTS IT 119
*A. ENLARGES THE CHEST CAVITY.
B. REDUCES THE SIZE OF THE CHEST CAVITY.
C. CAUSES INTERNAL RESPIRATION TO STOP
D. FORCES AIR OUT OF THE LUNGS.

WHEN THE DIAPHRAGM RELAXES THE CHEST CAVITY 0120
A. IS ENLARGED.
*B. IS REDUCED IN SIZE.
C. FORCES AIR INTO THE LUNGS.
D. CAUSES INTERNAL RESPIRATION TO STOP.

WHEN THE DIAPHRAGM CONTRACTS, THE CHEST CAVITY ENLARGES AND THE AIR PRESSURE WITHIN THE LUNGS 0121
*A. IS REDUCED.
B. IS INCREASED.
C. STAYS THE SAME.

WHEN THE DIAPHRAGM RELAXES THE CHEST CAVITY BECOMES SMALLER AND THE AIR PRESSURE WITHIN THE LUNGS 0122
A. IS REDUCED.
*B. IS INCREASED.
C. STAYS THE SAME.

WHEN THE AIR PRESSURE WITHIN THE LUNGS IS REDUCED 0123
A. AIR IS FORCED OUT OF THE LUNGS.
*B. AIR COMES INTO THE LUNGS.
C. THE RATE OF BREATHING IS INCREASED.
D. THE RATE OF BREATHING IS DECREASED.

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THE STUDENT WILL DISTINGUISH BETWEEN THE PROCESSES INVOLVED IN AIR INTAKE AND FOOD INTAKE BY IDENTIFYING THE SPECIFIC PARTS THAT PERTAIN TO EACH PROCESS. %3¤ 0004

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

DURING SWALLOWING THE EPIGLOTTIS COVERS THE OPENING OF THE LARYNX SO THAT 0163
*A. NO FOOD OR WATER CAN GET INTO THE LARYNX.
B. FOOD AND WATER CAN GET INTO THE BRONCHI.
C. NO FOOD OR WATER CAN GET INTO THE ESOPHAGUS.
D. NO FOOD OR WATER WILL COME BACK INTO THE MOUTH.

WHEN FOOD *GOES DOWN THE WRONG THROAT* WHAT REALLY HAPPENS IS 0164
*A. THE EPIGLOTTIS DOES NOT CLOSE AND SOME FOOD PARTICLES GET INTO THE LARYNX.
B. THE EPIGLOTTIS CLOSES AND SOME FOOD PARTICLES GO DOWN THE ESOPHAGUS.
C. THE FOOD PARTICLES GO DOWN THE ESOPHAGUS INSTEAD OF THE TRACHEA.
D. THE FOOD PARTICLES ARE TOO LARGE TO FIT THROUGH THE GLOTTIS.

THE BANDS OF CARTILAGE IN THE TRACHEA ARE C-SHAPED %U-SHAPED¤ SO THAT 0165
*A. THE TRACHEA DOES NOT INTERFERE WITH THE PASSAGE OF FOOD DOWN THE ESOPHAGUS.
B. LARGE PIECES OF FOOD CAN PASS THROUGH.
C. FOOD WILL NOT PASS INTO THE LARYNX DURING SWALLOWING.
D. THE ESOPHAGUS DOES NOT INTERFERE WITH THE PASSAGE OF FOOD DOWN THE TRACHEA.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE TRANSFER OF OXYGEN FROM THE LUNGS TO THE BLOOD CELLS BY IDENTIFYING THE PARTS AND PROCESSES IN THIS TRANSFER. %1¤ 0005

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHEN CARBON DIOXIDE PASSES FROM THE BODY CELLS INTO THE CAPILLARIES ITS MOLECULES 0169 169
*A. MAY COMBINE WITH HEMOGLOBIN BUT MOST WILL COMBINE WITH SOME ELEMENTS IN THE PLASMA.
B. COMBINE WITH HEMOGLOBIN.
C. MAY COMBINE WITH EITHER RED BLOOD CELLS OR WHITE BLOOD CELLS.
D. COMBINE WITH BLOOD PLATELETS.

****

THE STUDENT WILL ANALYZE A STORY BY IDENTIFYING ANALOGOUS RELATIONSHIPS OF THE STORY TO THE FUNCTIONS OF THE DIFFERENT BODY SYSTEMS. %9¤ 0178

READ THE FOLLOWING STORY. CIRCLE THE LETTER OF THE CORRECT ANSWER FOR THE QUESTIONS AFTER THE STORY.

THE OPERATION OF A MODERN CAR MANUFACTURER IS VERY SIMPLE. IT CONSISTS OF A MOVING ASSEMBLY LINE IN A FACTORY WHERE PARTS FROM OTHER AREAS COME TO MEN AT DIFFERENT PLACES ALONG THE LINE.

AS THE LINE MOVES MORE AND MORE PARTS ARE PUT ON UNTIL THE CAR IS FINISHED. EVERY SO OFTEN INSPECTORS CHECK ON HOW EVERYTHING IS GOING AND REPORT TO THE SUPERVISOR WHO CONTROLS THE ASSEMBLY. THE PARTS THAT COME TO THE LINE COME FROM OTHER FACTORIES AND ARE STORED UNTIL NEEDED. ANY USED OR DEFECTIVE PARTS AND MATERIALS ARE REMOVED BY A *REJECT* CREW OF MEN. THIS TYPE OF SYSTEM IS VERY EFFICIENT. ONE ASSEMBLY LINE CAN PUT OUT 50 CARS A DAY WHILE IF ONLY ONE MAN HAD TO DO EVERYTHING IT WOULD TAKE A MONTH TO MAKE ONE CAR. EVERY MAN ON THE LINE HAS ONLY ONE JOB TO DO AND CAN DO THAT JOB WELL AND QUICKLY. A COMPUTER KEEPS TRACK OF EVERYTHING AND DETERMINES IF THE LINE SHOULD SPEED UP OR SLOW DOWN AND REPORTS TO THE SUPERVISOR WHO CARRIES OUT THE COMPUTERS ORDERS.

THE COMPUTER WOULD BE LIKE A 1935
A. DIGESTIVE ORGAN.
*B. BRAIN.
C. NERVE SYSTEM.
D. BLOOD STREAM.

THE ASSEMBLY LINE WITH ITS MOTORS TO RUN IT WOULD BE LIKE 1936
A. A NERVE SYSTEM.
B. A RESPIRATORY SYSTEM.
*C. A CIRCULATORY SYSTEM.
D. AN EXCRETORY SYSTEM.

THE INSPECTORS WOULD BE LIKE 1937
*A. SENSORY NERVES.
B. MOTOR NERVES.
C. ENDOCRINE GLANDS.
D. ENZYMES.

THE MEN ON THE ASSEMBLY LINE WOULD BE LIKE 1938
A. A SYSTEM.
B. TISSUES.
C. CELLS.
*D. ORGANS.

THE REJECT CREW WOULD BE LIKE 1939
A. A DIGESTIVE SYSTEM.
*B. AN EXCRETORY SYSTEM.
C. A RESPIRATORY SYSTEM.
D. AN ENDOCRINE SYSTEM.

THE ENTIRE FACTORY WOULD BE LIKE 1940
*A. AN ORGANISM.
B. AN ORGAN.
C. A SYSTEM.
D. A TISSUE.

THE COMPUTER, INSPECTORS, AND SUPERVISORS TOGETHER ARE LIKE 1941
A. NERVES.
B. AN ENDOCRINE SYSTEM.
C. NERVE ORGANS.
*D. A NERVE SYSTEM.

THE FACTORY'S WALLS, CEILINGS, SPRINKLER SYSTEMS AND ALARMS WOULD BE LIKE 1942
A. A SKELETON.
*B. SKIN.
C. MUSCLES.

D. NERVES.

THE SUPERVISOR WOULD BE LIKE 1943
A. A SENSORY NERVE.
B. THE BRAIN.
C. THE NERVE SYSTEM.
*D. A MOTOR NERVE.

THE GIRDERS, CRANES, HOISTS AND BEAMS WOULD BE LIKE 1944
*A. A SKELETON.
B. A MUSCLE SYSTEM.
C. A BLOOD STREAM.
D. A NERVE SYSTEM.

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CIRCULATORY SYSTEM

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE CIRCULATORY SYSTEM BY RECOGNIZING ANALOGOUS RELATIONSHIPS FOR PARTS OF THE SYSTEM. 0175
%3n

DIRECTIONS - THE ITEMS BELOW REFER TO THE WATER AND SEWAGE SYSTEM OF A CITY. DETERMINE THE PART OR FUNCTION OF THE CIRCULATORY SYSTEM THAT ARE LIKE THE CITY SYSTEMS, AND MATCH THE LETTER OF THE CORRECT ANSWER.

THE PUMPING STATION OF THE WATER SYSTEM IS *MOST* LIKE 1911
A. AN ARTERY.
B. A VEIN.
C. A CAPILLARY.
*D. A HEART.
E. THE BLOOD.

THE SEWER PIPE IS *MOST* LIKE 1912
A. AN ARTERY.
*B. A VEIN.
C. A CAPILLARY.
D. A HEART.
E. THE BLOOD.

THE PUMPING STATION AND OUTSIDE PIPES ARE *MOST* LIKE 1913
*A. THE HEART AND ARTERIES.
B. THE HEART AND VEINS.
C. THE HEART AND VEINS.
D. THE VEINS AND ARTERIES.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE CIRCULATORY SYSTEM BY IDENTIFYING THE DEFINITIONS AND FUNCTIONS OF PARTS OF THE SYSTEM. 0006
%6n

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE FUNCTION OF THE CIRCULATORY SYSTEM IS TO 0186
A. PROVIDE TRANSPORTATION FOR NERVE IMPULSES.

*B. TRANSPORT MATERIALS TO ALL PARTS OF THE BODY.
C. TRANSPORT ENZYMES NECESSARY FOR DIGESTION.
D. PROVIDES THE INFORMATION NECESSARY FOR INTELLIGENT RESPONSES.

THE HEART, BLOOD VESSELS AND BLOOD FORM A SYSTEM WHICH 0187
A. TRANSPORTS ENZYMES NECESSARY FOR DIGESTION.
B. PROVIDES THE INFORMATION NECESSARY FOR INTELLIGENT RESPONSES.
*C. TRANSPORTS MATERIALS TO ALL PARTS OF THE BODY.
D. PROVIDES TRANSPORTATION FOR NERVE IMPULSES.

THE CIRCULATORY SYSTEM IS MADE UP OF 188
*A. BLOOD, BLOOD VESSELS AND HEART.
B. AURICLES, VENTRICLES AND BLOOD.
C. THE HEART, LUNGS AND ATRIA.
D. BLOOD CELLS AND BLOOD VESSELS.

THE HEART, BLOOD AND BLOOD VESSELS MAKE UP 0189
A. THE DIGESTIVE SYSTEM.
B. THE LYMPHATIC SYSTEM.
C. THE ENDOCRINE SYSTEM.
*D. THE CIRCULATORY SYSTEM.

THE BLOOD VESSELS INCLUDE 190
A. AURICLES, VENTRICLES AND CILIA.
*B. ARTERIES, VEINS AND CAPILLARIES.
C. CATALYSTS, ENZYMES AND HORMONES.
D. AXIONS, DENDRITES AND IMPULSES.

ARTERIES, VEINS AND CAPILLARIES ARE 191
A. TYPES OF BLOOD CELLS.
B. TYPES OF CONNECTIVE TISSUE.
C. KINDS OF DIGESTIVE JUICES.
*D. KINDS OF BLOOD VESSELS.

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF THE THREE KINDS OF BLOOD VESSELS IN THE CIRCULATORY SYSTEM BY IDENTIFYING THE COMPOSITION, CHARACTERISTICS, LOCATIONS, AND FUNCTIONS OF EACH KIND. %4¤ 0007

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

AN ADVANTAGE OF HAVING ARTERIES OF THE ARMS AND LEGS LOCATED DEEP IN THE MUSCLE TISSUE IS THAT THEY 0300
A. ARE CLOSE TO THE BONES WHERE BLOOD CELLS ARE PRODUCED.
*B. HAVE THE MUSCLE TISSUE TO PROTECT THEM FROM INJURY.
C. CAN SUPPLY THE MUSCLES WITH ENERGY.
D. CAN CARRY INTERNAL WASTES OUT TO THE SKIN.

THE SMALL DIAMETER OF CAPILLARIES IS ADVANTAGEOUS BECAUSE IT 0301
*A. SLOWS DOWN THE MOVEMENT OF CELLS AND INCREASES THE EXCHANGE OF NUTRIENTS AND WASTES.
B. INCREASES THE PRESSURE IN THE VEINS.
C. SPEEDS UP THE MOVEMENT OF CELLS AND ALLOWS THE BLOOD TO CIRCULATE.
D. ALLOWS MORE BLOOD VESSELS TO RETURN TO THE HEART.

THE BLUE COLOR OF VEINS IN SYSTEMIC CIRCULATION IS DUE TO 0302
A. THE BLUE BLOOD INSIDE.
*B. THE DARK RED BLOOD INSIDE.
C. THE BRIGHT RED BLOOD INSIDE.
D. THE DECREASE IN THE BODY TEMPERATURE AT THE SURFACE.

IF AN ARTERY WERE CUT THE BLOOD WOULD BE 0303
A. DARK RED.
B. LIGHT BLUE.
*C. BRIGHT RED.
D. DARK BLUE.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF VEINS AND ARTERIES IN THE CIRCULATORY SYSTEM BY NAMING A SPECIFIC VEIN OR ARTERY THAT ACCOMPLISHES A SPECIFIED FUNCTION. %8¤ 0008

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE BLOOD VESSELS CARRYING BLOOD TO THE HEART ARE CALLED 0192
*A. ARTERIES.
B. VEINS.
C. CAPILLARIES.
D. DENDRITES.

THE BLOOD VESSELS CARRYING BLOOD AWAY FROM THE HEART ARE CALLED 0193
A. LACTEALS.
*B. VEINS.
C. ARTERIES.
D. CAPILLARIES.

THE BLOOD VESSEL CARRYING BLOOD FROM THE LEFT VENTRICLE IS CALLED 0194
A. THE PULMONARY ARTERY.
B. THE VENA CAVA.
C. THE PULMONARY VEIN.
*D. THE AORTA.

THE BLOOD VESSEL CARRYING BLOOD FROM THE RIGHT VENTRICLE IS CALLED 0195
A. THE AORTA.
*B. THE PULMONARY ARTERY.
C. THE PULMONARY VEIN.
D. THE VENA CAVA.

THE BLOOD VESSEL CARRYING BLOOD TO THE RIGHT AURICLE IS CALLED 0196
A. AORTA.
B. PULMONARY VEINS.
*C. VENA CAVA.
D. PULMONARY ARTERIES.

THE BLOOD VESSELS CARRYING BLOOD TO THE LEFT AURICLE ARE CALLED 0197
A. AORTA.
B. VENA CAVA.
C. PULMONARY ARTERIES.
*D. PULMONARY VEINS.

VEINS CARRY BLOOD 205
*A. TO THE HEART.

B. AWAY FROM THE HEART.
C. TO THE LUNGS.

ARTERIES CARRY BLOOD 206
A. TO THE HEART.
*B. AWAY FROM THE HEART.
C. AWAY FROM THE LUNGS.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF SMALLER BRANCHES OF VEINS AND ARTERIES BY IDENTIFYING THEIR NAMES AND FUNCTIONS. %2¤ 0009

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE BLOOD VESSELS THROUGH WHICH NUTRIENTS PASS TO BODY CELLS AND WASTES ARE ABSORBED FROM BODY CELLS ARE CALLED 0198
A. VEINS.
*B. CAPILLARIES.
C. ARTERIES.
D. LACTEALS.

ONE FUNCTION OF CAPILLARIES IS TO 212
A. CARRY BLOOD TO THE ARTERIES.
*B. ALLOW NUTRIENTS TO PASS TO BODY CELLS AND WASTES TO BE ABSORBED.
C. ALLOW WASTES TO BE ABSORBED BY THE HEART.
D. CARRY BLOOD FROM THE VEINS TO THE HEART.

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THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF PULMONARY AND SYSTEMIC CIRCULATION BY IDENTIFYING THEIR STEPS AND FUNCTIONS IN OXYGENATION OF BLOOD. %20¤ 0010

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE FLOW OF BLOOD FROM THE HEART TO THE LUNGS AND BACK TO THE HEART IS CALLED 0170
*A. PULMONARY CIRCULATION.
B. ORGANIC CIRCULATION.
C. LYMPHATIC CIRCULATION.
D. SYSTEMIC CIRCULATION.

THE FLOW OF BLOOD FROM THE HEART TO ALL PARTS OF THE BODY %EXCEPT THE LUNGS¤ AND BACK TO THE HEART IS CALLED 0171
A. PULMONARY CIRCULATION.
B. LYMPHATIC CIRCULATION.
C. ORGANIC CIRCULATION.
*D. SYSTEMIC CIRCULATION.

THE FLOW OF BLOOD FROM THE RIGHT VENTRICLE TO THE LUNGS AND BACK TO THE LEFT AURICLE IS CALLED 0172
A. ORGANIC CIRCULATION.
B. SYSTEMIC CIRCULATION.
*C. PULMONARY CIRCULATION.
D. LYMPHATIC CIRCULATION.

THE FLOW OF BLOOD FROM THE LEFT VENTRICLE TO ALL PARTS OF THE 0173

BODY %EXCEPT THE LUNGS¤ AND BACK TO THE RIGHT AURICLE IS CALLED
A. ORGANIC CIRCULATION.
*B. SYSTEMIC CIRCULATION.
C. PULMONARY CIRCULATION.
D. LYMPHATIC CIRCULATION.

IN PULMONARY CIRCULATION THE FLOW OF BLOOD IS FROM 0174
A. THE LUNGS TO THE REST OF THE BODY AND BACK TO THE LUNGS.
*B. THE HEART TO THE LUNGS AND BACK TO THE HEART.
C. THE HEART TO ALL PARTS OF THE BODY %EXCEPT THE LUNGS¤ AND BACK TO THE HEART.
D. THE HEART TO THE LIVER AND BACK TO THE HEART.

THE FUNCTION OF PULMONARY CIRCULATION IS TO CARRY 0175
A. OXYGENATED BLOOD FROM THE HEART TO THE BODY AND BRING DEOXYGENATED BLOOD BACK TO THE HEART.
B. DEOXYGENATED BLOOD FROM THE HEART TO THE BODY AND BRING OXYGENATED BLOOD BACK TO THE HEART.
*C. OXYGENATED BLOOD FROM THE HEART TO THE LUNGS AND BRING DEOXYGENATED BLOOD BACK TO THE HEART.
D. DEOXYGENATED BLOOD FROM THE HEART TO THE LUNGS AND BRING OXYGENATED BLOOD BACK TO THE HEART.

IN PULMONARY CIRCULATION THE FLOW OF BLOOD IS FROM 0177
A. THE RIGHT VENTRICLE THROUGH THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT VENTRICLE.
*B. THE RIGHT VENTRICLE THROUGH THE PULMONARY ARTERY TO THE LUNGS AND BACK THROUGH THE PULMONARY VEIN TO THE LEFT AURICLE.
C. THE RIGHT VENTRICLE THROUGHT THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT AURICLE.
D. THE RIGHT AURICLE THROUGH THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT VENTRICLE.

IN SYSTEMIC CIRCULATION THE FLOW OF BLOOD IS FROM 0178
A. THE LEFT AURICLE THROUGH THE VENA CAVA TO THE BODY AND BACK THROUGH THE AORTA TO THE RIGHT VENTRICLE.
B. THE LEFT VENTRICLE THROUGH THE VENA CAVA TO THE BODY AND BACK THROUGH THE AORTA TO THE RIGHT AURICLE.
C. THE LEFT AURICLE THROUGH THE AORTA TO THE BODY AND BACK THROUGH THE VENA CAVA TO THE RIGHT VENTRICLE.
*D. THE LEFT VENTRICLE THROUGH THE AORTA TO THE BODY AND BACK THROUGH THE VENA CAVA TO THE RIGHT AURICLE.

THE FLOW OF BLOOD FROM THE HEART TO THE LEFT FOOT AND BACK TO THE HEART IS A PART OF 0179
A. PULMONARY CIRCULATION.
B. ORGANIC CIRCULATION.
*C. SYSTEMIC CIRCULATION.
D. LYMPHATIC CIRCULATION.

THE FLOW OF BLOOD FROM THE HEART TO THE RIGHT HAND AND BACK TO THE HEART IS PART OF 0180
A. LYMPHATIC CIRCULATION.
*B. SYSTEMIC CIRCULATION.
C. ORGANIC CIRCULATION.
D. PULMONARY CIRCULATION.

THE FLOW OF BLOOD FROM THE HEART TO THE BRAIN AND BACK TO THE HEART IS PART OF 0181
A. ORGANIC CIRCULATION.

B. PULMONARY CIRCULATION.
C. LYMPHATIC CIRCULATION.
*D. SYSTEMIC CIRCULATION.

THE FLOW OF BLOOD FROM THE RIGHT VENTRICLE TO THE LUNGS AND BACK TO THE LEFT ATRIUM IS CALLED 0182
A. ORGANIC CIRCULATION.
B. SYSTEMIC CIRCULATION.
*C. PULMONARY CIRCULATION.
D. LYMPHATIC CIRCULATION.

THE FLOW OF BLOOD FROM THE LEFT VENTRICLE TO ALL PARTS OF THE BODY %EXCEPT THE LUNGS□ AND BACK TO THE RIGHT ATRIUM IS CALLED 0183
A. ORGANIC CIRCULATION.
*B. SYSTEMIC CIRCULATION.
C. PULMONARY CIRCULATION.
D. LYMPHATIC CIRCULATION.

IN PULMONARY CIRCULATION THE FLOW OF BLOOD IS FROM 0184
A. THE RIGHT VENTRICLE THROUGH THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT VENTRICLE.
*B. THE RIGHT VENTRICLE THROUGH THE PULMONARY ARTERY TO THE LUNGS AND BACK THROUGH THE PULMONARY VEIN TO THE LEFT ATRIUM.
C. THE RIGHT VENTRICLE THROUGH THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT ATRIUM.
D. THE RIGHT ATRIUM THROUGH THE PULMONARY VEIN TO THE LUNGS AND BACK THROUGH THE PULMONARY ARTERY TO THE LEFT VENTRICLE.

IN SYSTEMIC CIRCULATION THE FLOW OF BLOOD IS FROM 0185
A. THE LEFT ATRIUM THROUGH THE VENA CAVA TO THE BODY AND BACK THROUGH THE AORTA TO THE RIGHT VENTRICLE.
B. THE LEFT VENTRICLE THROUGH THE VENA CAVA TO THE BODY AND BACK THROUGH THE AORTA TO THE RIGHT ATRIUM.
C. THE LEFT ATRIUM THROUGH THE AORTA TO THE BODY AND BACK THROUGH THE VENA CAVA TO THE RIGHT VENTRICLE.
*D. THE LEFT VENTRICLE THROUGH THE AORTA TO THE BODY AND BACK THROUGH THE VENA CAVA TO THE RIGHT ATRIUM.

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THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE MAKE UP OF BLOOD BY IDENTIFYING THE NAMES, CHARACTERISTICS AND FUNCTIONS OF THE DIFFERENT PARTS OF BLOOD. %21□ 0011

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHEN OXYGEN PASSES FROM THE AIR OF THE LUNGS THROUGH THE CAPILLARY WALLS INTO THE BLOOD, ITS MOLECULES COMBINE WITH 0166
A. THE NUCLEI IN THE WHITE BLOOD CELLS.
B. THE BLOOD PLATELETS.
C. THE FIBRINOGEN IN THE PLASMA.
*D. THE HEMOGLOBIN IN THE RED BLOOD CELLS.

THE COMBINATION OF OXYGEN AND HEMOGLOBIN IS CALLED 0167
A. OXYGENATION.
*B. OXYHEMOGLOBIN.
C. METABOLISM.
D. HEMOGLOBINURIA.

THE REACTION BETWEEN HEMOGLOBIN AND OXYGEN IS 0168

*A. REVERSIBLE AND DEPENDENT ON THE CONCENTRATION OF OXYGEN.
B. IRREVERSIBLE AND DEPENDENT ON THE CONCENTRATION OF OXYGEN.
C. REVERSIBLE AND INDEPENDENT OF THE CONCENTRATION OF OXYGEN.
D. IRREVERSIBLE AND INDEPENDENT OF THE CONCENTRATION OF OXYGEN.

THE MAJOR COMPONENTS OF BLOOD ARE 256
*A. RED BLOOD CELLS, WHITE BLOOD CELLS, PLATELETS AND PLASMA.
B. CELLS AND SERUM.
C. RED CORPUSCLES, WHITE CORPUSCLES AND SERUM.
D. EOSINOPHILES, NEUTROPHILES AND BASOPHILES.

THE MAJOR COMPONENTS OF BLOOD ARE 257
A. EOSINOPHILES, NEUTROPHILES AND BASOPHILES.
B. ERYTHROCYTES, MONOCYTES AND LYMPHOCYTES.
*C. LEUCOCYTES, ERYTHROCYTES, PLATELETS AND PLASMA.
D. LYMPHOCYTES, MONOCYTES, PLATELETS AND PLASMA.

ANOTHER NAME FOR A RED BLOOD CELL IS 0258
A. LYMPHOCYTE.
B. LEUCOCYTE.
C. THROMBOCYTE.
*D. ERYTHROCYTE.

ANOTHER NAME FOR A WHITE BLOOD CELL IS 0259
A. LYMPHOCYTE.
*B. LEUCOCYTE.
C. THROMBOCYTE.
D. ERYTHROCYTE.

BLOOD IS A FLUID MADE UP OF 260
A. PLASMA AND SALTS.
B. SERUM AND CELLS.
C. SERUM AND PLASMA.
*D. PLASMA AND CELLS.

THE COMPOUND THAT GIVES RED BLOOD CELLS THEIR COLOR IS CALLED 0261
A. FIBRINAGEN.
B. PLASMA.
*C. HEMOGLOBIN.
D. LYMPH.

ONE OF THE PROTEINS IN PLASMA WHICH AIDS IN THE CLOTTING OF BLOOD IS CALLED 0262
A. HEMOGLOBIN.
*B. FIGRINOGEN.
C. LYMPH.
D. CHYME.

THE FUNCTION OF THE HEMOGLOBIN IN RED BLOOD CELLS IS 0263
A. TO MAINTAIN BODY TEMPERATURE.
B. TO FIGHT INFECTION.
*C. TO CARRY OXYGEN.
D. TO AID IN THE CLOTTING OF BLOOD.

THE FUNCTION OF THE BLOOD PLATELETS IS 0264
A. TO MAINTAIN BODY TEMPERATURE.
B. TO CARRY OXYGEN.
C. TO FIGHT INFECTION.
*D. TO AID IN THE CLOTTING OF BLOOD.

DEFENDING THE BODY AGAINST BACTERIAL INFECTION IS THE FUNCTION OF 0265

A. THE RED BLOOD CELLS.
B. THE PLATELETS.
*C. THE WHITE BLOOD CELLS.
D. THE PLASMA.

ANOTHER NAME FOR BLOOD PLATELETS IS 266
A. ERYTHROCYTES.
B. LYMPHOCYTES.
C. LEUCOCYTES.
*D. THROMBOCYTES.

THE BLOOD CELL THAT IS A NON-NUCLEATED BICONCAVE IS 0274
A. A LYMPHOCYTE.
B. A PLATELET.
*C. A RED BLOOD CELL.
D. A WHITE BLOOD CELL.

A RED BLOOD CELL MAY BE DESCRIBED AS 0275
A. A NUCLEATED DISC WITH A CYTOPLASM.
*B. A NON-NUCLEATED BICONCAVE DISC.
C. A CELL WITH A LARGE NUCLEUS AND A SMALL AMOUNT OF CYTOPLASM.
D. A NON-NUCLEATED CONVEX DISC WITHOUT A CYTOPLASM.

A WHITE BLOOD CELL MAY BE DESCRIBED AS 0276
A. A NON-NUCLEATED BICONCAVE DISC.
B. A NON-NUCLEATED CONVEX DISC WITHOUT A CYTOPLASM.
*C. A NUCLEATED CELL THAT IS LARGER THAN A RED BLOOD CELL.
D. A NUCLEATED CELL THAT IS SMALLER THAN A RED BLOOD CELL.

THE BLOOD CELL THAT IS NUCLEATED AND LARGER THAN OTHERS IS CALLED 0277
A. A RED BLOOD CELL.
*B. A WHITE BLOOD CELL.
C. A PLATELET.
D. A ERYTHNOCYTE.

A RED BLOOD CELL 278
A. AIDS IN FIGHTING INFECTION
B. AIDS IN THE CLOTTING OF BLOOD
C. TRANSPORTS ENERGY TO BODY CELLS
D. KEEPS BLOOD CLOTS FROM FORMING
*E. TRANSPORTS OXYGEN TO BODY CELLS

WHITE BLOOD CELL 279
*A. AIDS IN FIGHTING INFECTION
B. AIDS IN THE CLOTTING OF BLOOD
C. TRANSPORTS ENERGY TO BODY CELLS
D. KEEPS BLOOD CLOTS FROM FORMING
E. TRANSPORTS OXYGEN TO BODY CELLS

PLATELET 280
A. AIDS IN FIGHTING INFECTION
*B. AIDS IN THE CLOTTING OF BLOOD
C. TRANSPORTS ENERGY TO BODY CELLS
D. KEEPS BLOOD CLOTS FROM FORMING
E. TRANSPORTS OXYGEN TO BODY CELLS

FIBRINOGEN IS A SUBSTANCE FOUND IN 281
A. RED BLOOD CELLS AND IT CARRIES OXYGEN.
B. WHITE BLOOD CELLS AND IT HELPS FIGHT INFECTION.
*C. PLASMA AND IT AIDS IN THE CLOTTING OF BLOOD.
D. SERUM AND IT CAUSES BLOOD TO CLOT.

PLASMA IS 282
*A. THE STRAW COLORED LIQUID PART OF BLOOD.
B. THE PART OF BLOOD THAT GIVES IT A RED COLOR.
C. THE PART OF A WHITE BLOOD CELL THAT FIGHTS INFECTION.
D. THE RED COLORED SOLID PART OF BLOOD.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE FOUR BLOOD GROUPS BY NAMING THE BLOOD TYPES AND THEIR CHARACTERISTICS. %1¤ 0012

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE MAJOR BLOOD GROUPS %TYPES* ARE 267
*A. A, B, O AND AB.
B. A AND B.
C. O AND B.
D. A, B AND O.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE RHESUS %RH¤ FACTOR OF BLOOD BY IDENTIFYING THE TWO GROUPS AND CHARACTERISTICS OF EACH. %2¤ 0013

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

IF A PERSON HAS THE RH FACTOR PRESENT IN HIS BLOOD HE IS 0268
*A. RH POSITIVE.
B. RH NEGATIVE.
C. TYPE O.
D. A HEMOPHILIAC.

IF A PERSON DOES NOT HAVE THE RH FACTOR PRESENT IN HIS BLOOD HE IS SAID TO BE 0269
A. RH POSITIVE.
*B. RH NEGATIVE.
C. TYPE O.
D. A HEMOPHILIAC.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF ABNORMAL BLOOD CONDITIONS BY IDENTIYING CHARACTERISTICS AND CAUSES OF DIFFERENT BLOOD DISEASES. %7¤ 0014

MATCH THE BLOOD CONDITION WITH ITS IDENTIFYING CHARACTERISTICS. 0012

ANEMIA 270
A. INCREASED NUMBER OF RED BLOOD CELLS
B. EXCESSIVE NUMBER OF WHITE BLOOD CELLS
C. HEREDITARY-UNCONTROLLABLE BLEEDING FROM SLIGHT INJURY
*D. REDUCED NUMBER OF RED BLOOD CELLS OR DECREASED HEMOGLOBIN

LEUKEMIA 271
A. INCREASED NUMBER OF RED BLOOD CELLS
B. EXCESSIVE NUMBER OF WHITE BLOOD CELLS

C. HEREDITARY-UNCONTROLLABLE BLEEDING FROM SLIGHT INJURY
D. REDUCED NUMBER OF RED BLOOD CELLS OR DECREASED HEMOGLOBIN

HEMOPHILIA 272
A. INCREASED NUMBER OF RED BLOOD CELLS
B. EXCESSIVE NUMBER OF WHITE BLOOD CELLS
*C. HEREDITARY-UNCONTROLLABLE BLEEDING FROM SLIGHT INJURY
D. REDUCED NUMBER OF RED BLOOD CELLS OR DECREASED HEMOGLOBIN

IF A PERSON HAS ANEMIA IT MEANS THAT 288
A. HIS WHITE BLOOD CELL COUNT IS LOW.
*B. HIS RED BLOOD CELL COUNT IS LOW OR HIS HEMOGLOBIN IS LOW.
C. HIS BLOOD PLATELET COUNT IS LOW.
D. HIS WHITE BLOOD CELL COUNT IS HIGH AND HIS RED BLOOD CELL COUNT IS LOW.

IF A PERSON HAS HEMOPHILIA, WHY MUST HE BE *ESPECIALLY* CAREFUL NOT TO BE SCRATCHED BY A CATO 0289
A. HE WILL HAVE AN ALLERGIC REACTION TO THE CLAWS OF THE CAT.
B. HE WILL HAVE TO HAVE STITCHES.
*C. HE MIGHT BLEED TO DEATH.
D. HIS BODY CANNOT FIGHT THE INFECTION CAUSED BY THE CAT'S CLAWS.

IF A PERSON HAS LEUKEMIA HIS BLOOD COUNT WILL SHOW THAT 0290
A. HIS BLOOD PLATELET COUNT IS VERY LOW.
B. HIS RED BLOOD CELL COUNT IS HIGH.
C. HE HAS NO FIBRINAGEN.
*D. HIS WHITE BLOOD CELL COUNT IS VERY HIGH.

****

THE STUDENT WILL ANALYZE THE KINDS OF IMMUNITIES TO DISEASES TO DETERMINE WHETHER THEY ARE ACTIVE IMMUNITIES, OR PASSIVE IMMUNITIES. %4□ 0167

DIRECTIONS - GIVEN THE FOLLOWING TABLE OF DISEASES AND THEIR IMMUNITIES, DETERMINE WHETHER THE IMMUNITIES ARE ACTIVE OR PASSIVE.

DISEASE	IMMUNITY	ACTIVE, PASSIVE, OR CAN'T BE DETERMINED	
SMALLPOX	LONGTIME IMMUNITY RESULTING FROM HAVING HAD THE DISEASE	*ACTIVE	1858
YELLOW FEVER	LIVETIME IMMUNITY RESULTING FROM HAVING HAD THE DISEASE	*ACTIVE	1859
GERMAN MEASLES	IMMUNITY RESULTING FROM GAMMA GLOBULIN WHICH IS A PROTEIN IN BLOOD PLASMA	*PASSIVE	1860
DIPHTHERIA	SHORT TIME IMMUNITY RESULTING FROM ANTIBODIES PASSED FROM MOTHER TO NEWBORN	*PASSIVE	1861

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE TERM HEMORRHAGE BY RECALLING ITS DEFINITION. %2□ 0016

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE LOSS OF A GREAT QUANTITY OF BLOOD FROM THE BODY IS CALLED 0285
A. A TRANSFUSION.
*B. A HEMORRHAGE.
C. ANEMIA.
D. AN OPERATION.

HEMORRHAGE IS DEFINED AS 286
A. A DISEASE IN WHICH THE WHITE BLOOD CELL COUNT IS HIGH.
B. A DISEASE IN WHICH THE RED BLOOD CELL COUNT IS HIGH.
*C. THE LOSS OF A LARGE QUANTITY OF BLOOD.
D. A METHOD OF INCREASING THE QUANTITY OF BLOOD.

****

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF PRESSURE IN THE CIRCULATORY SYSTEM BY SELECTING THE BLOOD VESSEL INVOLVED IN A GIVEN SITUATION WHERE THE PRESSURE IS DESCRIBED. %7□ 0017

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE PULSE CAN BE FELT 295
*A. WHEREVER AN ARTERY LIES CLOSE TO THE SURFACE OF THE BODY.
B. WHEREVER A VEIN LIES CLOSE TO THE SURFACE OF THE BODY.
C. WHEREVER A CAPILLARY LIES CLOSE TO THE SURFACE OF THE BODY.
D. ANYWHERE IN THE BODY.

THE MOVEMENT OF THE BLOOD THROUGH SYSTEMIC CIRCULATION IS A RESULT OF 0296
A. THE CONTRACTION OF THE LEFT AURICLE OF THE HEART.
B. THE CONTRACTION OF THE RIGHT VENTRICLE.
C. THE PRESSURE CREATED AS THE BLOOD GOES THROUGH THE CAPILLARIES.
*D. THE CONTRACTION OF THE LEFT VENTRICLE.

ONE WOULD EXPECT THE GREATEST PRESSURE IN WHICH TYPE OF BLOOD VESSELSO 0297
A. CAPILLARIES
*B. ARTERIES
C. VEINS
D. VENTRICLES

ONE WOULD EXPECT THE PRESSURE TO BE GREATEST IN WHICH BLOOD VESSELO 0298
A. VENA CAVA
B. PULMONARY VEIN
*C. AORTA
D. PULMONARY ARTERY

ONE WOULD EXPECT THE LOWEST PRESSURE IN WHICH TYPE OF BLOOD VESSELSO 0299
A. ARTERIES
B. VENTRICLES
*C. VEINS
D. CAPILLARIES

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE HEART BY IDENTIFYING THE CHARACTERISTICS AND FUNCTIONS OF ITS INDIVIDUAL PARTS. 0018
.340

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE HUMAN HEART HAS 222
A. 3 CHAMBERS.
B. 2 CHAMBERS.
*C. 4 CHAMBERS.
D. 1 CHAMBER.

THE UPPER CHAMBERS OF THE HEART ARE CALLED 0223
*A. AURICLES.
B. VENTRICLES.
C. LACTEALS.
D. DORSALS.

THE LOWER CHAMBERS OF THE HEART ARE CALLED 0224
A. LACTEALS.
B. DORSALS.
C. AURICLES.
*D. VENTRICLES.

THE RIGHT SIDE OF THE HEART CONTAINS 225
A. OXYGENATED BLOOD.
*B. DEOXYGENATED BLOOD.
C. OXALATED BLOOD.
D. COAGULATED BLOOD.

THE LEFT SIDE OF THE HEART CONTAINS 226
A. COAGULATED BLOOD.
B. OXALATED BLOOD.
C. DEOXYGENATED BLOOD.
*D. OXYGENATED BLOOD.

THE LEFT AURICLE AND LEFT VENTRICLE ARE SEPARATED BY A 0227
A. SEMILUNAR VALVE.
*B. BICUSPID VALVE.
C. TRICUSPID VALVE.
D. SPHENCTER VALVE.

THE RIGHT AURICLE AND RIGHT VENTRICLE ARE SEPARATED BY A 0228
A. SEMILUNAR VALVE.
B. BICUSPID VALVE.
*C. TRICUSPID VALVE.
D. SPHINCTER VALVE.

BLOOD FROM THE BODY ENTERS THE OF THE HEART. 0229
A. LEFT AURICLE
B. LEFT VENTRICLE
C. RIGHT AURICLE
D. RIGHT VENTRICLE

BLOOD FROM THE LUNGS ENTERS THE OF THE HEART. 0230
*A. LEFT AURICLE
B. LEFT VENTRICLE

C. RIGHT AURICLE
D. RIGHT VENTRICLE

BLOOD FROM THE LEFT AURICLE ENTERS 231
A. THE AORTA.
*B. THE LEFT VENTRICLE.
C. THE PULMONARY ARTERY.
D. THE RIGHT VENTRICLE.
E. THE RIGHT AURICLE.

BLOOD FROM THE RIGHT AURICLE ENTERS 232
A. THE AORTA.
B. THE LEFT VENTRICLE.
C. THE PULMONARY ARTERY.
*D. THE RIGHT VENTRICLE.
E. THE LEFT AURICLE.

BLOOD FROM THE LEFT VENTRICLE ENTERS 0233
*A. THE AORTA.
B. THE LEFT AURICLE.
C. THE RIGHT AURICLE.
D. THE RIGHT VENTRICLE.
E. THE PULMONARY ARTERY.

BLOOD FROM THE RIGHT VENTRICLE ENTERS 0234
A. THE AORTA.
B. THE RIGHT AURICLE.
C. THE LEFT AURICLE.
D. THE LEFT VENTRICLE.
*E. THE PULMONARY ARTERY.

DEOXYGENATED BLOOD FROM THE BODY ENTERS THE OF THE HEART. 0235
*A. RIGHT AURICLE
B. RIGHT VENTRICLE
C. LEFT AURICLE
D. LEFT VENTRICLE

OXYGENATED BLOOD FROM THE LUNGS ENTERS THE OF THE HEART. 0236
A. RIGHT AURICLE
B. RIGHT VENTRICLE
*C. LEFT AURICLE
D. LEFT VENTRICLE

THE PUMPS BLOOD TO THE LUNGS. 0237
A. RIGHT AURICLE
*B. RIGHT VENTRICLE
C. LEFT AURICLE
D. LEFT VENTRICLE

THE PUMPS BLOOD TO ALL PARTS OF THE BODY EXCEPT THE LUNGS. 0238
A. RIGHT AURICLE
B. RIGHT VENTRICLE
C. LEFT AURICLE
*D. LEFT VENTRICLE

THE WALL OF THE LEFT VENTRICLE IS 0243
*A. THICKER THAN THAT OF THE RIGHT VENTRICLE.
B. THINNER THAN THAT OF THE RIGHT VENTRICLE.
C. THE SAME THICKNESS AS THAT OF THE RIGHT VENTRICLE.
D. THE SAME THICKNESS AS THE LEFT AURICLE.

ONE REASON WHY THE WALL OF THE LEFT VENTRICULAR IS THICKER THAN THAT OF THE RIGHT MIGHT BE THAT IT HAS TO PUMP BLOOD TO 0244

A. THE LUNGS.
*B. ALL PARTS OF THE BODY.
C. THE RIGHT VENTRICLE.
D. THE LEFT AURICLE.

THE VALVES OF THE HEART ALLOW BLOOD TO FLOW 0245

A. IN EITHER DIRECTION.
B. FROM AURICLE TO AURICLE.
C. FROM VENTRICLE TO VENTRICLE.
*D. IN ONE DIRECTION ONLY.

THE CHAMBERS OF THE HEART THAT RECEIVE BLOOD FROM THE VEINS ARE CALLED 0250

A. LACTEALS.
B. DORSALS.
*C. AURICLES.
D. VENTRICLES.

THE CHAMBERS OF THE HEART THAT PUMP BLOOD AWAY FROM THE HEART ARE CALLED 0251

A. AURICLES.
*B. VENTRICLES.
C. LACTEALS.
D. DORSALS.

DIRECTIONS-- NEED STANDARD DIAGRAM OF HEART WITH MAJOR PARTS LETTERED.

252

A. AORTA
*B. PULMONARY ARTERY
C. BICUSPID VALVE
D. TRICUSPID VALVE
F. PULMONARY VEIN

253

A. AORTA
B. PULMONARY ARTERY
C. BICUSPID VALVE
*D. TRICUSPID VALVE
E. PULMONARY VEIN

254

*A. AORTA
B. PULMONARY ARTERY
C. BICUSPID VALVE
D. TRICUSPID VALVE
E. PULMONARY VEIN

255

A. AORTA
B. PULMONARY ARTERY
C. BICUSPID VALVE
D. TRICUSPID VALVE
*E. PULMONARY VIEN

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE BLOOD VESSELS THAT CONNECT DIRECTLY WITH THE HEART BY NAMING THE BLOOD VESSEL AND ITS FUNCTION IN THE BLOOD OXYGENATION PROCESS. %1m 0019

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE BLOOD VESSELS BRINGING BLOOD TO THE RIGHT AURICLE ARE CALLED 0239
*A. THE SUPERIOR AND INFERIOR VENA CAVA. 0239
B. THE PULMONARY ARTERIES.
C. THE PULMONARY VEINS.
D. THE CORONARY ARTERIES.

THE BLOOD VESSELS BRINGING BLOOD TO THE LEFT AURICLE ARE CALLED 0240
A. THE SUPERIOR AND INFERIOR VENA CAVA.
B. THE PULMONARY ARTERIES.
*C. THE PULMONARY VEINS.
D. THE CORONARY ARTERIES.

THE VESSEL THROUGH WHICH BLOOD PASSES AS IT LEAVES THE RIGHT VENTRICLE IS CALLED 0241
A. THE AORTA.
B. THE PULMONARY VEIN.
*C. THE PULMONARY ARTERY.
D. THE CORONARY ARTERY.

THE VESSEL THROUGH WHICH BLOOD PASSES AS IT LEAVES THE LEFT VENTRICLE IS CALLED 0242
*A. THE AORTA.
B. THE PULMONARY VEIN.
C. THE PULMONARY ARTERY.
D. THE CORONARY ARTERY.

****

THE STUDENT WILL DISTINGUISH BETWEEN DIASTOLIC AND SYSTOLIC ACTIONS OF THE HEART BY IDENTIFYING CHARACTERISTICS OF EACH AS THEY RELATE TO THE HEARTS CONTRACTING AND RELAXING MOVEMENT. %4□ 0020

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE CONTRACTION OF THE VENTRICLES OF THE HEART IS CALLED 0246
A. VACUOLATION.
*B. SYSTOLE.
C. DIASTOLE.
D. OVATION

SYSTOLE IS TERM THAT MEANS 247
A. THE CONTRACTION OF THE AURICLES OF THE HEART.
*B. THE CONTRACTION OF THE VENTRICLES OF THE HEART.
C. THE RELAXING OF THE VENTRICLES OF THE HEART.
D. THE RELAXING OF THE CORONARY BLOOD VESSELS.

THE RELAXING OF THE VENTRICLES OF THE HEART IS CALLED 0248
A. OVATION.
B. SYSTOLE.
*C. DIASTOLE.
D. VACUOLATION.

DIASTOLE IS A TERM THAT MEANS 249
A. THE CONTRACTION OF THE AURICLES OF THE HEART.
B. THE CONTRACTION OF THE VENTRICLES OF THE HEART.
*C. THE RELAXING OF THE VENTRICLES OF THE HEART.
D. THE RELAXING OF THE CORONARY BLOOD VESSELS.

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EXCRETORY SYSTEM

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE HUMAN EXCRETORY SYSTEM BY IDENTIFYING THE ORGANS, FORMED WASTES, AND PROCESSES INVOLVED IN WASTE REMOVAL IN THE BODY. %20□ 0021

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

EXCRETION IS THE PROCESS BY WHICH 304
A. ENERGY IS RELEASED FROM FOOD.
*B. WASTE MATERIALS ARE REMOVED FROM THE BODY.
C. OXYGEN IS TAKEN INTO THE BODY AND CARBON DIOXIDE IS RELEASED.
D. FOOD IS TRANSPORTED TO BODY CELLS.

THE PROCESS BY WHICH WASTE MATERIALS ARE REMOVED FROM THE BODY IS CALLED 0305
A. DIGESTION.
B. INGESTION.
C. RESPIRATION.
*D. EXCRETION.

THREE MAIN KINDS OF WASTES ARE REMOVED FROM THE BODY 0306
A. CARBON MONOXIDE, HYDROGEN WASTES AND WATER.
B. CARBON WASTES, DIGESTED FOOD AND WATER.
*C. UNDIGESTED FOOD, CARBON DIOXIDE AND NITROGEN WASTES.
D. OXYGEN, CARBON MONOXIDE AND WATER.

CARBON DIOXIDE IS PRODUCED IN THE BODY CELLS WHEN 0307
*A. FOOD IS OXIDIZED AND ENERGY RELEASED.
B. OXYGEN IS CHANGED TO ENERGY.
C. CARBON AND HYDROGEN COMBINE.
D. OXYGEN IS PRODUCED IN THE BLOOD.

NITROGEN WASTES COME FROM 308
*A. THE PROTEINS USED IN THE BODY CELLS.
B. THE ENERGY RELEASED BY THE BODY CELLS.
C. THE OXIDATION OF ENERGY IN THE BODY CELLS.
D. THE COMBINING OF OXYGEN AND HYDROGEN IN THE BODY CELLS.

UNDIGESTED FOOD PASSES OUT OF THE BODY FROM 0309
A. THE SKIN.
*B. THE RECTUM AND ANUS.
C. THE KIDNEYS.
D. THE LUNGS.

CARBON DIOXIDE IS REMOVED FROM THE BODY BY 0310
A. THE SKIN.
B. THE KIDNEYS.
C. THE RECTUM.
*D. THE LUNGS.

NITROGEN WASTES ARE REMOVED FROM THE BLOOD BY 0311
*A. THE KIDNEYS AND SKIN.
B. THE LUNGS AND HEART.
C. THE RECTUM AND LARGE INTESTINE.

D. THE HEART AND BLOOD.

NITROGEN WASTES FORM A COMPOUND CALLED 0312
A. FECES.
B. CARBON DIOXIDE.
C. WATER.
*D. UREA.

UREA IS A COMPOUND FORMED FROM 313
A. THE COMBINATION OF CARBON AND OXYGEN.
*B. NITROGEN WASTES.
C. THE COMBINATION OF HYDROGEN AND OXYGEN.
D. UNDIGESTED FOOD.

THE LUNGS REMOVE WHAT KINDS OF WASTESO 314
A. URINE
*B. CARBON DIOXIDE
C. UREA
D. NITROGEN WASTES

THE RECTUM AND ANUS ALLOW FOR THE REMOVAL OF WHAT KIND OF WASTESO 0315
A. NITROGEN WASTES
B. URINE
C. CARBON DIOXIDE
*D. UNDIGESTED FOOD

THE WASTE MATERIALS REMOVED FROM THE BODY BY THE URINARY SYSTEM ARE IN THE FORM OF 0316
A. UNDIGESTED FOOD.
B. CARBON DIOXIDE.
*C. URINE.
D. SWEAT.

THE UNDIGESTED FOOD ELIMINATED FROM THE LARGE INTESTINE AND RECTUM IS CALLED 0317
A. URINE.
B. SWEAT.
C. NITROGEN WASTES.
*D. FECES.

UREA AND SOME OTHER CHEMICALS ALONG WITH WATER MAKE UP 0318
*A. URINE.
B. FECES.
C. NITROGEN WASTES.
D. BILE.

THE FUNCTION OF THE LIVER IS TO 319
A. REMOVE FROM THE BLOOD.
B. REMOVE UREA FROM THE GALL BLADDER.
*C. BREAK DOWN DEAD AND WEAKENED RED BLOOD CELLS AND AMINO ACIDS FROM THE BLOOD.
D. BREAK DOWN NITROGEN WASTES AND REMOVE THEM FROM THE BLOOD.

WEAKENED AND DEAD RED BLOOD CELLS ARE REMOVED FROM THE BLOOD BY 0320
*A. THE LIVER.
B. THE KIDNEYS.
C. THE GALL BLADDER.
D. THE PANCREAS.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE URINARY SYSTEM OF EXCRETION BY IDENTIFYING STRUCTURES AND THEIR FUNCTIONS THAT MAKE UP THE SYSTEM. %19□ 0022

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE URINARY SYSTEM INCLUDES 342
*A. THE KIDNEYS, URETERS, BLADDER AND URETHRA.
B. THE BLOOD, HEART AND BLOOD VESSELS.
C. THE LUNGS, TRACHEA, PHARYNX AND LARYNX.
D. THE STOMACH, SMALL INTESTINE AND LARGE INTESTINE.

THE KIDNEYS, URETERS, BLADDER AND URETHRA MAKE UP WHAT IS CALLED 0343
A. THE CIRCULATORY SYSTEM.
B. THE RESPIRATORY SYSTEM.
*C. THE URINARY SYSTEM.
D. THE REPRODUCTIVE SYSTEM.

THE KIDENYS ARE LOCATED 344
A. ON THE RIGHT SIDE OF THE CHEST.
*B. ON EITHER SIDE OF THE SPINAL COLUMN IN THE UPPER ABDOMEN.
C. IN THE LOWER ABDOMEN ON EITHER SIDE OF THE BLADDER.
D. IN THE PELVIS NEXT TO THE RECTUM.

THE FUNCTION OF THE KIDNEYS IS TO REMOVE 0345
A. CARBON AND OXYGEN FROM THE BLOOD.
B. HYDROGEN FROM THE LUNGS.
*C. DISSOLVED UREA AND OTHER CHEMICALS FROM THE BLOOD.
D. DIGESTED OXYGEN AND CARBON DIOXIDE FROM THE BLOOD.

REMOVING DISSOLVED UREA AND OTHER WASTES FROM THE BLOOD IS A FUNCTION OF 0346
A. THE LUNGS.
B. THE LIVER.
*C. THE KIDNEYS.
D. THE PANCREAS.

THE CONNECT %S□ THE KIDNEYS AND THE BLADDER. 0347
A. URETHRA
*B. URETERS
C. NEPHRONS
D. PYRAMIDS

THE URETERS CONNECT 348
A. THE STOMACH AND PANCREAS.
B. THE LIVER AND STOMACH.
C. THE NEPHRONS AND PYRAMIDS.
*D. THE KIDNEYS AND BLADDER.

THE TUBES THAT CARRY URINE FROM THE KIDNEYS TO THE BLADDER ARE CALLED 0349
A. URETHRA.
B. NEPHRON.
*C. URETERS.
D. PYRAMIDS.

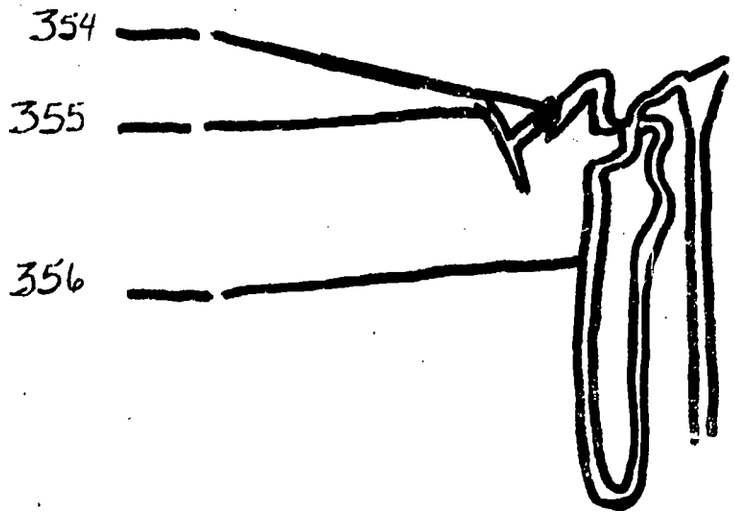
THE BLADDER IS LOCATED 350
A. IN THE CHEST.
B. NEXT TO THE STOMACH.
C. NEXT TO THE KIDNEYS.

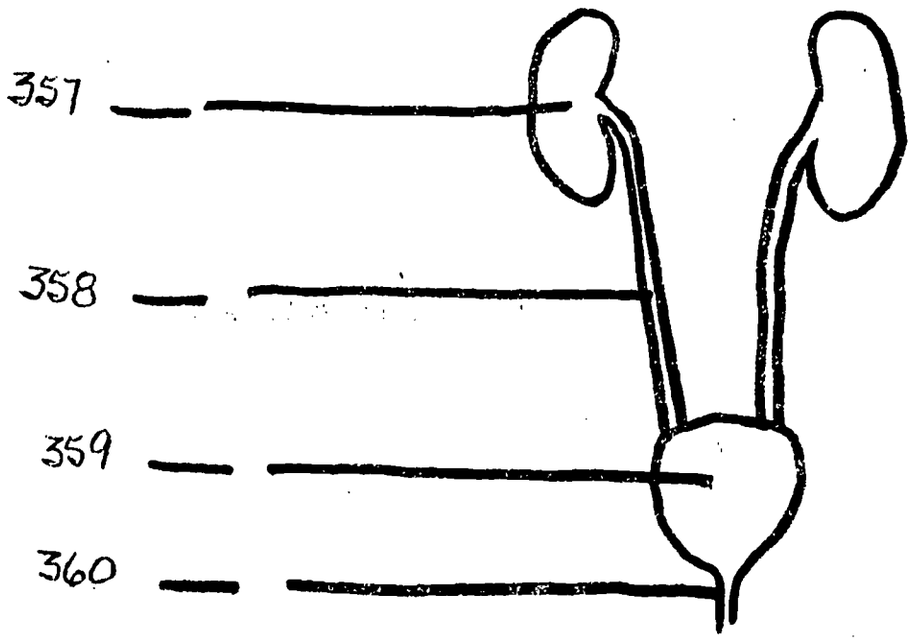
*D. IN THE PELVIC AREA.

THE URINARY BLADDER IS 351
A. A MUSCULAR SAC WHERE BILE IS STORED.
B. THE PART OF THE KIDNEY WHERE URINE COLLECTS.
*C. A MUSCULAR SAC WHERE URINE IS STORED.
D. THE PLACE WHERE URINE IS REMOVED FROM THE BLOOD.

THE URETHRA IS A TUBE THAT 352
A. CONNECTS THE KIDNEYS AND THE BLADDER.
B. CONNECTS THE LIVER AND GALL BLADDER.
C. GOES FROM THE PANCREAS TO THE FIRST PART OF THE SMALL INTESTINE.
*D. GOES FROM THE BLADDER TO THE OUTSIDE OF THE BODY.

THE FUNCTION OF THE URETHRA IS TO ALLOW 0353
A. WATER TO BE REABSORBED FROM THE TUBULE.
B. WASTES TO BE REMOVED FROM THE BLOOD.
*C. URINE TO PASS OUT OF THE BODY FROM THE BLADDER.
D. URINE TO PASS FROM THE KIDNEYS TO THE BLADDER.





DIRECTION-- IDENTIFY THE PART BEING LOCATED IN THE DIAGRAM.

*A. BOWMAN'S CAPSULE 354
B. CAPILLARY
C. TUBULE
D. GLOMERULUS
E. LISTER'S CUP

A. BOWMAN'S CAPSULE 355
B. CAPILLARY
C. TUBULE
*D. GLOMERULUS
E. LISTER'S CUP

A. BOWMAN'S CAPSULE 356
B. CAPILLARY
*C. TUBULE
D. GLOMERULUS
E. LISTER'S CUP

A. URETHRA 357
B. URETER
C. NEPHRON
*D. KIDNEY
E. BLADDER

A. URETHRA 358
*B. URETER
C. NEPHRON
D. KIDNEY
E. BLADDER

A. URETHRA 359
B. URETER
C. NEPHRON
D. KIDNEY
*E. BLADDER

*A. URETHRA 360
B. URETER
C. NEPHRON
D. KIDNEY
D. BLADDER

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE SKIN'S ROLE IN EXCRETION BY IDENTIFYING THE COMPOSITION AND FUNCTIONS OF THE DIFFERENT LAYERS OF SKIN. %21□ 0023

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE TWO LAYERS OF THE SKIN ARE 321
A. THE AURICLE AND VENTRICLE.
B. THE NEPHRON AND PYRAMIDS.
*C. THE DERMIS AND EPIDERMIS.
D. THE URETER AND URETHRA.

THE OUTER LAYER OF THE SKIN IS CALLED 0322
A. THE DERMIS.

*B. THE EPIDERMIS.
C. THE CORTEX.
D. THE MEDULLA.

THE EPIDERMIS IS THE NAME OF 323
*A. THE OUTER LAYER OF SKIN.
B. THE OUTER PART OF THE NEPHRON.
C. THE INNER LAYER OF SKIN.
D. THE INNER PART OF THE NEPHRON.

THE INNER LAYER OF THE SKIN IS CALLED 0324
*A. THE DERMIS.
B. THE EPIDERMIS.
C. THE CORTEX.
D. THE MEDULLA.

THE DERMIS IS THE NAME OF 325
A. THE OUTER LAYER OF SKIN.
B. THE OUTER PART OF THE NEPHRON.
*C. THE INNER LAYER OF SKIN.
D. THE INNER PART OF THE NEPHRON.

THE EPIDERMIS IS MADE UP OF 326
A. NERVES AND BLOOD VESSELS.
*B. EPITHELIAL CELLS.
C. OIL GLANDS.
D. HAIR ROOTS.

EPITHELIAL CELLS ARE THE BASIS FOR 327
A. THE DERMIS.
*B. THE EPIDERMIS.
C. THE SWEAT GLANDS.
D. THE OIL GLANDS.

THE DERMIS CONTAINS 328
A. EPITHELIAL CELLS.
*B. SWEAT GLANDS, HAIR ROOTS, NERVES, OIL GLANDS.
C. ELODEA CELLS.
D. SALIVARY GLANDS, MUCUS, DUCTS, DIGESTIVE JUICES AND BLOOD CELLS.

SWEAT GLANDS, HAIR ROOTS AND NERVES ARE FOUND IN 0329
*A. THE DERMIS.
B. THE EPIDERMIS.
C. THE CORTEX.
D. THE PYRAMIDS.

OIL GLANDS AND BLOOD VESSELS ARE FOUND IN 0330
A. THE EPIDERMIS.
*B. THE DERMIS.
C. THE PYRAMIDS.
D. THE CORTEX.

THE PORES OF THE SKIN ARE THE OPENINGS OF 0331
A. THE OIL GLANDS.
*B. THE SWEAT GLANDS.
C. THE HAIR ROOTS.
D. THE LYMPH GLANDS.

THE FOLLICLE IS THE OPENING FOR 332
A. THE CAPILLARIES.

B. THE SWEAT GLANDS AND NERVES.
C. THE HAIR AND OIL GLANDS.
D. THE LYMPH GLANDS.

THE OPENINGS IN THE SKIN FOR HAIR AND OIL GLANDS ARE CALLED 0333
A. PORES.
*B. FOLLICLES.
C. DUCTS.
D. VALVES.

THE OPENING OF THE SWEAT GLAND IS CALLED 0334
A. A DUCT.
B. A FOLLICLE.
*C. A PORE.
D. A GLOTTIS.

THE PARTS OF THE DERMIS THAT HELP TO REGULATE THE BODY TEMPERATURE ARE 0335
*A. SWEAT GLANDS AND BLOOD VESSELS.
B. OIL GLANDS AND NERVES.
C. HAIR ROOTS AND NERVES.
D. EPIDERMIS - PORES.

THE SKIN IS CONSIDERED A SENSE ORGAN BECAUSE OF THE PRESENCE OF IN THE DERMIS. 0336
A. HAIR ROOTS
B. BLOOD VESSELS
*C. NERVES
D. OIL GLANDS

THE SKIN IS A PART OF THE EXCRETORY SYSTEM BECAUSE OF THE PRESENCE OF IN THE DERMIS. 0337
A. OIL GLANDS
*B. SWEAT GLANDS
C. BLOOD VESSELS
D. HAIR ROOTS

THE PRESENCE OF NERVES IN THE DERMIS ACCOUNTS FOR THE SKIN 0338
A. ASSISTING IN EXCRETION.
B. REGULATING BODY TEMPERATURE.
*C. ACTING AS THE SENSE ORGAN.
D. PREVENTING THE LOSS OF WATER.

THE SWEAT GLANDS OF THE SKIN 339
A. PREVENT THE LOSS OF WATER FROM THE BODY.
B. PROTECT THE BODY AGAINST BACTERIAL INVASION.
C. ACT AS A SENSE ORGAN.
*D. ASSIST IN EXCRETION.

THE SWEAT GLANDS AND BLOOD VESSELS 340
*A. HELP TO REGULATE BODY TEMPERATURES.
B. HELP TO PROTECT THE BODY AGAINST BACTERIAL INVASION.
C. ACT AS A SENSE ORGAN.
D. PREVENT THE LOSS OF WATER FROM THE BODY.

THE SWEAT GLANDS ARE RESPONSIBLE FOR THE ELIMINATION OF 0341
*A. SOME NITROGEN WASTES AND WATER.
B. URINE.
C. UNDIGESTED FOOD.
D. CARBON DIOXIDE.

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THE STUDENT WILL UNDERSTAND THE ROLE OF THE KIDNEY IN EXCRETION BY IDENTIFYING ITS COMPONENT PARTS AND THEIR FUNCTIONS. %15¤ 0024

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE TINY FILTERS INSIDE EACH KIDNEY ARE CALLED 0361
A. ALVEOLI.
*B. NEPHRONS.
C. PYRAMIDS.
D. COLLECTING CUPS.

NEPHRONS ARE 362
*A. TINY FILTERS WITHIN THE KIDNEY.
B. AIR SACS IN THE LUNGS.
C. COLLECTING CUPS WITHIN THE KIDNEY.
D. TUBES CONNECTING THE KIDNEYS AND BLADDER.

THE GLOBE LIKE STRUCTURE AT THE BEGINNING OF THE NEPHRON IS CALLED 0363
A. KOCH,S BACILLUS.
B. LISTER,S CUP.
*C. BOWMAN,S CAPSULE.
D. HENLE,S LOOP.

BOWMAN,S CAPSULE IS 364
A. THE STRUCTURE AT THE TOP OF EACH KIDNEY.
B. ANOTHER NAME FOR THE NEPHRON.
*C. THE GLOBE LIKE PART OF THE NEPHRON.
D. A PART OF THE URETHRA.

THE TUFT OF CAPILLARIES INSIDE BOWMAN,S CAPSULE IS CALLED 0365
A. THE URETHRA.
B. THE NEPHRON.
C. THE URETER.
*D. THE GLOMERULUS.

THE GLOMERULUS IS 366
A. THE TUBE CONNECTING THE BLADDER AND THE OUTSIDE OF THE BODY.
B. THE TUBE CONNECTING THE NEPHRON AND THE KIDNEY.
*C. THE TUFT OF CAPILLARIES INSIDE BOWMAN,S CAPSULE.
D. THE GLOBE LIKE PART OF THE NEPHRON.

THE TUBULE OF THE NEPHRON IS SURROUNDED BY 0367
A. ALVEOLI.
B. BACILLI.
*C. CAPILLARIES.
D. DUCTS.

THE FUNCTION OF THE CAPILLARIES AROUND THE TUBULE OF THE NEPHRON IS 0368
*A. TO REABSORB WATER.
B. TO REMOVE MORE WASTES.
C. TO REGULATE THE FLOW OF BLOOD THROUGH THE TUBULE.
D. TO ALLOW FOR THE EXCHANGE OF OXYGEN AND CARBON DIOXIDE.

THE FUNCTION OF BOWMAN,S CAPSULE IS TO ALLOW FOR 0369
A. THE EXCHANGE OF OXYGEN AND CARBON DIOXIDE.
*B. WATER AND WASTES TO BE ABSORBED FROM THE BLOOD.

C. THE RELEASE OF HEAT FROM THE BODY.
D. THE PASSAGE OF BLOOD INTO THE TUBULE.

THE TUBULES OF THE NEPHRON EMPTY INTO 370
A. THE GLOMERULUS.
B. THE URETHRA.
C. THE BASE OF THE BLADDER.
*D. THE PELVIS OF THE KIDNEY.

THE CENTER PART OF THE KIDNEY INTO WHICH THE TUBULES EMPTY IS CALLED 0371
A. THE URETHRA.
*B. THE PELVIS.
C. THE GLOMERULUS.
D. THE CORTEX.

THE VEIN CARRYING BLOOD FROM THE KIDNEY IS 0372
A. THE HEPATIC PORTAL VIEN.
B. THE SUPERIOR VENA CAVA.
C. THE PULMONARY VEIN.
*D. THE RENAL VEIN.

THE RENAL VEIN CARRIES BLOOD FROM 373
A. THE HEART.
B. THE LIVER.
*C. THE KIDNEY.
D. THE PANCREAS.

THE RENAL ARTERY CARRIES BLOOD TO 374
A. THE HEART.
B. THE PANCREAS.
*C. THE KIDNEY.
D. THE LIVER.

THE ARTERY THAT CARRIES BLOOD TO THE KIDNEY IS CALLED 0375
*A. THE RENAL ARTERY.
B. THE AORTA.
C. THE PULMONARY ARTERY.
D. THE INFERIOR VENA CAVA.

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THE STUDENT WILL ANALYZE THE FUNCTIONS OF PARTS OF BODY SYSTEMS BY SELECTING ANALOGOUS FUNCTIONAL RELATIONSHIPS BETWEEN PARTS OF DIFFERENT BODY SYSTEMS. %19□ 0025

SELECT THE WORD THAT BEST FILLS THE BLANK. 14

THE ESOPHAGUS IS TO THE DIGESTIVE SYSTEM AS THE IS TO THE RESPIRATORY SYSTEM. 0376
A. ALVEOLUS
B. PHARYNX
*C. TRACHEA
D. GLOTTIS

THE TRACHEA IS TO THE RESPIRATORY SYSTEM AS THE IS TO THE DIGESTIVE SYSTEM. 0377
A. PHARYNX
*B. ESOPHAGUS
C. VILLUS

D. GLOTTIS

THE KIDNEYS ARE TO THE URINARY SYSTEM AS THE ARE TO THE 0378
RESPIRATORY SYSTEM.
A. TRACHEA
B. CILIA
C. VILLI
*D. LUNGS

THE LUNGS ARE TO THE RESPIRATORY SYSTEM AS THE ARE TO 0379
THE URINARY SYSTEM.
A. URETERS
*B. KIDNEYS
C. VILLI
D. CILIA

THE RECTUM IS TO THE DIGESTIVE SYSTEM AS THE IS TO THE 0380
URINARY SYSTEM.
A. NEPHRON
B. URETER
C. KIDNEY
*D. BLADDER

THE BLADDER IS TO THE URINARY SYSTEM AS THE IS TO THE 0381
DIGESTIVE SYSTEM.
*A. RECTUM
B. GALL BLADDER
C. LIVER
D. SMALL INTESTINE

THE VILLI ARE TO THE SMALL INTESTINE AS THE ARE TO THE 0382
LUNGS.
*A. ALVEOLI
B. TRACHEA
C. BRONCHI
D. CILIA

THE ALVEOLI ARE TO THE LUNGS AS THE ARE TO THE SMALL 0383
INTESTINE.
A. INTESTINAL GLANDS
B. GASTRIC GLANDS
*C. VILLI
D. CILIA

THE KIDNEY IS TO THE URINARY SYSTEM AS THE IS TO THE 0384
SKIN.
A. FOLLICLE
B. CAPILLARY
C. OIL GLAND
*D. SWEAT GLAND

THE SWEAT GLAND IS TO THE SKIN AS THE IS TO THE URINARY 0385
SYSTEM.
*A. KIDNEY
B. URETER
C. BLADDER
D. URETHRA

THE PULMONARY ARTERY IS TO THE LUNG AS THE IS TO THE 0386
KIDNEY.
A. CELIAC ARTERY

B. CAROTID ARTERY
C. AORTA
*D. RENAL ARTERY

THE RENAL ARTERY IS TO THE KIDNEY AS THE IS TO THE LUNG. 0387
A. AORTA
*B. PULMONARY ARTERY
C. CAROTID ARTERY
D. CELIAC ARTERY

THE PULMONARY VEIN IS TO THE LUNG AS THE IS TO THE KIDNEY. 0388
A. SUPERIOR VENA CAVA
B. FEMORAL VEIN
*C. RENAL VEIN
D. HEPATIC PORTAL VEIN

THE RENAL VEIN IS TO THE KIDNEY AS THE IS TO THE LUNG. 0389
A. SUPERIOR VENA CAVA
*B. PULMONARY VEIN
C. HEPATIC PORTAL VEIN
D. FEMORAL VEIN

THE DIAPHRAGM IS TO THE RESPIRATORY SYSTEM AS THE IS TO THE CIRCULATORY SYSTEM. 0390
*A. HEART
B. BLOOD
C. VEIN
D. CAPILLARY

THE HEART IS TO THE CIRCULATORY SYSTEM AS THE IS TO THE RESPIRATORY SYSTEM. 0391
A. ALVEOLUS
B. BRONCHIAL TUBE
C. CILIA
*D. DIAPHRAGM

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DIGESTIVE SYSTEM

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE DIGESTIVE SYSTEM BY IDENTIFYING THE LOCATIONS AND FUNCTIONS FOR PARTS OF THE SYSTEM. 0026
%98n

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

TAKING FOOD INTO THE BODY IS CALLED 393
A. DIGESTION.
*B. INGESTION.
C. DEGLUTITION.
D. MASTICATION.
E. PERISTALSIS.

INGESTION MEANS 394
*A. TAKING FOOD INTO THE BODY.
B. CHEWING FOOD.
C. MUSCULAR CONTRACTIONS OF THE FOOD TUBE.
D. PREPARATION OF FOOD FOR USE IN THE BODY.

E. SWALLOWING.

THE ACT OF CHEWING IS CALLED 394
*A. MASTICATION.
B. DIGESTION.
C. DEGLUTITION.
D. INGESTION.
E. PERISTALSIS.

MASTICATION MEANS 395
A. TAKING FOOD INTO THE BODY.
*B. CHEWING FOOD.
C. PREPARATION OF FOOD FOR USE IN THE BODY.
D. SWALLOWING.
E. MUSCULAR CONTRACTIONS OF THE FOOD TUBE.

THE ACT OF SWALLOWING IS CALLED 397
A. DIGESTION.
B. PERISTALSIS.
*C. DEGLUTITION.
D. MASTICATION.
E. INGESTION.

DEGLUTITION MEANS 398
A. MUSCULAR CONTRACTIONS OF THE FOOD TUBE.
B. TAKING FOOD INTO THE BODY.
C. PREPARATION OF FOOD FOR USE IN THE BODY.
*D. SWALLOWING.
E. CHEWING FOOD.

PREPARING FOOD FOR USE IN THE BODY IS CALLED 0399
A. PERISTALSIS.
*B. DIGESTION.
C. DEGLUTITION.
D. MASTICATION.
E. INGESTION.

DIGESTION IS DEFINED AS 400
*A. PREPARATION OF FOOD FOR USE IN THE BODY.
B. TAKING FOOD INTO THE BODY.
C. CHEWING FOOD.
D. SWALLOWING.
E. MUSCULAR CONTRACTIONS OF THE FOOD TUBE.

PERISTALSIS MEANS 401
A. SWALLOWING.
B. CHEWING FOOD.
*C. MUSCULAR CONTRACTIONS OF THE FOOD TUBE.
D. TAKING FOOD INTO THE BODY.
E. PREPARATION OF FOOD FOR USE IN THE BODY.

THE WAVE OF MUSCULAR CONTRACTIONS THAT PUSH FOOD THROUGH THE FOOD TUBE IS CALLED 0402
A. INGESTION.
B. DIGESTION.
C. MASTICATION.
*D. PERISTALSIS.
E. DEGLUTITION.

REMOVAL OF SOLID WASTES FROM THE BODY IS CALLED 0403
A. MASTICATION.

B. DEGLUTITION.
*C. DEFECATION.
D. INGESTION.

DEFECATION MEANS 404
A. THE ACT OF CHEWING FOOD.
B. THE ACT OF SWALLOWING FOOD.
*C. THE REMOVAL OF SOLID WASTES FROM THE BODY.
D. THE PREPARATION OF FOOD FOR USE IN THE BODY.

THERE ARE TWO CHANGES THAT OCCUR DURING DIGESTION 0405
A. MUSCULAR AND MECHANICAL.
B. CHEMICAL AND HEAT.
*C. MECHANICAL AND CHEMICAL.
D. MUSCULAR AND HEAT.

THE PHASE OF DIGESTION THAT INVOLVES CHEWING, CHURNING AND MIXING 0406
OF FOOD IS CALLED
*A. MECHANICAL.
B. CHEMICAL.
C. HEAT.
D. ENERGY.

THE PHASE OF DIGESTION THAT IS ACCOMPLISHED BY DIGESTIVE ENZYMES 0407
IS CALLED
A. MUSCULAR.
B. MECHANICAL.
C. HEAT.
*D. CHEMICAL.

THE TONGUE AND TEETH ARE INVOLVED IN WHICH PHASE OF DIGESTION? 0408
A. CHEMICAL
B. MUSCULAR
*C. MECHANICAL
D. ENERGY

DIGESTION BEGINS IN 409
A. THE STOMACH.
B. THE ESOPHAGUS.
*C. THE MOUTH.
D. THE SMALL INTESTINE.

PROTEIN DIGESTION BEGINS IN 410
A. THE MOUTH.
B. THE SMALL INTESTINE.
C. THE ESOPHAGUS.
*D. THE STOMACH.

THE DIGESTION OF STARCH BEGINS IN 411
A. THE STOMACH.
B. THE SMALL INTESTINE.
*C. THE MOUTH.
D. THE LARGE INTESTINE.

THE DIGESTION OF FAT BEGINS IN 412
A. THE STOMACH.
*B. THE SMALL INTESTINE.
C. THE MOUTH.
D. THE LARGE INTESTINE.

THE THREE TYPES OF FOODS ARE 413

A. STARCHES, SUGARS AND FATS.
B. FATS, CARBOHYDRATES AND SUGARS.
*C. CARBOHYDRATES, FATS AND PROTEINS.
D. PROTEINS, CARBOHYDRATES AND STARCHES.

IN DIGESTION, CARBOHYDRATES ARE CHANGED TO 0414
A. GLYCERIN AND FATTY ACIDS.
*B. GLUCOSE.
C. AMINO ACIDS.

IN DIGESTION, PROTEINS ARE CHANGED TO 0415
A. GLYCERIN AND FATTY ACIDS.
*B. AMINO ACIDS.
C. GLUCOSE.

IN DIGESTION, FATS ARE CHANGED TO 416
*A. GLYCERIN AND FATTY ACIDS.
B. AMINO ACIDS.
C. GLUCOSE.

AN ENZYME IS A SUBSTANCE IN THE DIGESTIVE SYSTEM THAT 0417
A. IS PRODUCED BY ENDOCRINE GLANDS AND HELPS CONTROL THE BODY'S ACTIVITIES.
*B. REMAINS UNCHANGED BUT SPEEDS UP A CHEMICAL CHANGE OR MAKES IT OCCUR AT A LOWER TEMPERATURE.
C. IS USED UP IN THE PROCESS OF BREAKING DOWN FATS INTO SOLUBLE FORMS.
D. IS PRODUCED BY THE SALIVARY GLANDS AND BEGINS THE DIGESTION OF FOOD.

WITHIN THE FOOD TUBE THE GLANDS THAT PRODUCE A LUBRICATING FLUID ARE CALLED 0418
A. SALIVARY GLANDS.
*B. MUCUS GLANDS.
C. GASTRIC GLANDS.
D. DIGESTIVE GLANDS.

THE THREE TYPES OF SALIVARY GLANDS ARE 419
A. MUCUS, THYROID AND GASTRIC.
*B. MAXILLARY, PAROTID AND SUBLINGUAL.
C. FEMORAL, ADENOID AND EUSTACHIAN.
D. PAROTID, CAROTID AND TEMPORAL.

THE ENZYME PRESENT IN SALIVA THAT BEGINS TO CHANGE STARCH TO SUGAR IS 0420
A. PEPSIN.
B. RENNIN.
C. TRYPSIN.
*D. PTYALIN.

THE SECRETIONS OF THE SALIVARY GLANDS EMPTY INTO 0421
*A. THE MOUTH.
B. THE ESOPHAGUS.
C. THE STOMACH.
D. THE SMALL INTESTINE.

THE DIGESTIVE JUICE FOUND IN THE MOUTH IS CALLED 0422
*A. SALIVA.
B. BILE.
C. INTESTINAL JUICE.
D. GASTRIC JUICE.

THE DIGESTIVE JUICE PRODUCED BY THE SALIVARY GLANDS IS 0423
A. GASTRIC JUICE.
B. BILE.
C. HYDROCHLORIC ACID.
*D. SALIVA.

AN INFECTION OF THE PAROTID GLANDS, CAUSING SWELLING AND IRRITATION IS THE DISEASE CALLED 0424
A. CHICKEN POX.
B. LARYNGITIS.
C. PHARANGITIS.
*D. MUMPS.

THE PRINCIPAL ENZYME PRESENT IN GASTRIC JUICE WHICH ACTS ON PROTEIN IS 0425
A. TRYPSIN.
B. PTYALIN.
*C. PEPSIN.
D. AMYLASE.

THE DIGESTIVE GLANDS FOUND IN THE STOMACH ARE CALLED 0426
A. THE SALIVARY GLANDS.
B. THE PAROTID GLANDS.
C. THE PANCREATIC GLANDS.
*D. THE GASTRIC GLANDS.

THE THREE KINDS OF SECRETIONS PRODUCED BY GASTRIC GLANDS ARE 0427
A. SALIVA, BILE AND MUCUS.
*B. MUCUS, HYDROCHLORIC ACID AND ENZYMES.
C. ENZYMES, MUCUS AND BILE.
D. HYDROCHLORIC ACID, MUCUS AND BILE.

GASTRIC JUICE CONTAINS WHAT SUBSTANCE THAT IS NOT AN ENZYME0 0428
A. PTALIN
*B. HYDROCHLORIC ACID
C. BILE
D. PEPSIN

THE DIGESTIVE JUICE FOUND IN THE STOMACH IS CALLED 0429
A. SALIVA.
B. INTESTINAL JUICE.
*C. GASTRIC JUICE.
D. BILE.

THE LARGEST GLAND IN THE BODY IS 430
A. THE BRAIN.
*B. THE LIVER.
C. THE KIDNEY.
D. THE THYROID.

THE DIGESTIVE JUICE SECRETED BY THE LIVER IS 0431
*A. BILE.
B. SALIVA.
C. MUCUS.
D. HYDROCHLORIC ACID.

THE FUNCTION OF THE GALL BLADDER IS 432
A. TO PRODUCE GALL.
*B. TO STORE BILE.
C. TO PRODUCE MUCUS.

D. TO STORE HYDROCHLORIC ACID.

WHY IS BILE NOT CONSIDERED AN ENZYME? 433
A. IT DOES NOT CAUSE A CHEMICAL CHANGE.
*B. IT IS USED UP IN SPLITTING FAT PARTICLES.
C. IT CAUSES A CHEMICAL CHANGE.
D. IT IS NOT USED IN THE DIGESTION OF FOOD.

THE DIGESTIVE JUICE PRODUCED IN THE SMALL INTESTINE IS CALLED 0434
*A. INTESTINAL FLUID.
B. SALIVA.
C. GASTRIC FLUID.
D. BILE.

THE DIGESTIVE GLANDS LOCATED IN THE LINING OF THE SMALL INTESTINE ARE CALLED 0435
A. GASTRIC GLANDS.
B. SALIVARY GLANDS.
*C. INTESTINAL GLANDS.
D. PANCREATIC GLANDS.

THE ENZYMES PRESENT IN PANCREATIC JUICE ACT ON 0436
A. STARCHES, SUGARS AND FATS.
B. PROTEINS AND FATS.
*C. PROTEINS, FATS AND STARCHES.
D. PROTEINS AND STARCHES.

THE ALIMENTARY CANAL IS ALSO CALLED 437
A. THE PHARYNX.
B. THE ESOPHAGUS.
*C. THE FOOD TUBE.
D. THE TRACHEA.

THE ALIMENTARY CANAL IS THE TUBE THAT 438
A. CONNECTS THE LIVER AND GALL BLADDER.
*B. GOES FROM THE MOUTH TO THE ANUS.
C. CONNECTS THE INNER EAR AND THE THROAT.
D. GOES FROM THE LARYNX TO THE BRONCHI.

THE TUBE THAT GOES FROM THE MOUTH TO THE ANUS IS CALLED 0439
A. THE PHARYNX.
B. THE BILE DUCT.
*C. THE ALIMENTARY CANAL.
D. THE EUSTACHIAN TUBE.

IDENTIFY THE STRUCTURE THAT IS THE SAME AS THE GIVEN STRUCTURE.

PHARYNX 440
A. FOOD TUBE
B. GULLET
C. LARGE INTESTINE
*D. THROAT
E. SMALL INTESTINE

ESOPHAGUS 441
A. FOOD TUBE
*B. GULLET
C. LARGE INTESTINE
D. THROAT
E. SMALL INTESTINE

COLON 442

A. FOOD TUBE
B. GULLET
*C. LARGE INTESTINE
D. THROAT
E. SMALL INTESTINE

ALIMENTARY CANAL 443

*A. FOOD TUBE
B. GULLET
C. LARGE INTESTINE
D. THROAT
E. SMALL INTESTINE

THE FOOD TUBE CAN ALSO BE CALLED 444

A. THE PHARYNX.
*B. THE ALIMENTARY CANAL.
C. THE ESOPHAGUS.
D. THE TRACHEA.

THE CHIEF FUNCTION OF THE MOUTH IS 445

*A. PREPARE FOOD FOR DIGESTION.
B. ALLOW FOR SPEECH.
C. ALLOW FOR BREATHING.
D. PROVIDE A PLACE FOR THE TONGUE.

THE ROOF OF THE MOUTH IN THE CHEWING AREA IS CALLED 0446

A. THE SOFT PALATE.
*B. THE HARD PALATE.
C. THE PHARYNX.
D. THE UVULA.

THE KNOBLIKE EXTENSION OF THE SOFT PALATE IS CALLED 0447

A. THE HARD PALATE.
B. THE PHARYNX.
C. THE TONSIL.
*D. THE UVULA.

INCISOR, CANINE, PREMOLAR AND MOLAR ARE THE NAMES OF 0448

A. BONES.
B. GLANDS.
*C. TEETH.
D. MUSCLES.

THE PORTION OF THE TOOTH, EXTERNAL TO THE GUM IS 0449

A. THE HEAD.
B. THE CAP.
C. THE NECK.
*D. THE CROWN.

THE NARROW PORTION OF THE TOOTH, AT THE GUM LINE IS CALLED 0450

A. THE CROWN.
B. THE HEAD.
*C. THE NECK.
D. THE ROOT.

THE PART OF THE TOOTH ENCASED IN A SOCKET IN THE JAWBONE IS 0451

A. THE HEAD.
*B. THE ROOT.
C. THE NECK.

D. THE CROWN.

THE HARD WHITE SUBSTANCE THAT COVERS THE CROWN OF THE TOOTH IS CALLED 0452
A. CEMENTUM.
B. PULP.
*C. ENAMEL.
D. DENTINE.

THE SUBSTANCE THAT FORMS THE BULK OF THE TOOTH IS CALLED 0453
A. CEMENTUM.
*B. DENTINE.
C. PULP.
D. ENAMEL.

THE ESOPHAGUS CONNECTS 454
A. THE MOUTH AND GULLET.
B. STOMACH AND LARGE INTESTINE.
*C. THROAT AND STOMACH.
D. GALL BLADDER AND SMALL INTESTINE.

HOW MANY LAYERS OF SMOOTH MUSCLE DOES THE ESOPHAGUS HAVE0 0455
A. ONE
*B. TWO
C. THREE
D. FOUR

THE LAYERS OF MUSCLE IN THE ESOPHAGUS ARE CALLED 0456
A. FIRST, SECOND AND THIRD.
B. INNER AND OUTER.
*C. CIRCULAR AND LONGITUDINAL.
D. OBLIQUE AND TRANSVERSE.

THE FUNCTION OF THE MUSCULAR LAYERS OF THE ESOPHAGUS IS 0457
A. TO CHURN THE FOOD.
*B. TO PUSH THE FOOD ALONG.
C. TO PROVIDE DIGESTIVE JUICES.
D. TO MIX THE FOOD.

HOW MANY LAYERS OF SMOOTH MUSCLE DOES THE STOMACH WALL HAVE0 0458
A. ONE
B. TWO
*C. THREE
D. FOUR

THE LAYERS OF THE STOMACH ARE CALLED 459
A. INNER AND OUTER.
B. DERMIS AND EPIDERMIS.
*C. CIRCULAR, LONGITUDINAL AND ANGULAR %OBLIQUE¤.
D. TRANSVERSE, CIRCULAR AND DORSAL %BACK¤.

THE TUBES THAT EXTEND FROM CERTAIN GLANDS INTO THE DIGESTIVE ORGANS ARE CALLED 0460
A. HOSES.
*B. DUCTS.
C. PIPES.
D. CANALS.

THE VALVE WHICH PERMITS FOOD TO MOVE FROM THE STOMACH TO THE SMALL INTESTINE IS CALLED 0461
A. PANCREATIC VALVE.

B. UVULAR VALVE.
C. GASTRIC VALVE.
*D. PYLORIC VALVE.

THE ABSORPTION OF FOOD INTO THE BLOOD STREAM TAKES PLACE 0462
A. IN THE STOMACH.
*B. IN THE SMALL INTESTINE.
C. IN THE LIVER.
D. IN THE LARGE INTESTINE.

THE FIRST PORTION OF THE SMALL INTESTINE IS CALLED 0463
A. THE ESOPHAGUS.
*B. THE DUODENUM
C. THE ILEUM.
D. THE JEJUNUM.

THE FINGER-LIKE PROJECTIONS IN THE SMALL INTESTINE ARE CALLED 0465
A. DUCTS.
B. APPENDAGES.
C. CILIA.
*D. VILLI.

VILLI ARE 466
A. HAIR-LIKE STRUCTURES THAT LINE THE TRACHEA.
*B. FINGER-LIKE PROJECTIONS IN THE SMALL INTESTINE.
C. SMALL TUBES IN THE KIDNEYS.
D. FOLDS IN THE WALL OF THE STOMACH.

WITHIN THE VILLUS IS A THROUGH WHICH ANIMO ACIDS AND GLUCOSE ARE ABSORBED. 0467
A. DUCT
B. LACTEAL
*C. CAPILLARY
D. GLAND

THE FUNCTION OF THE VILLI OF THE SMALL INTESTINE IS 0468
A. TO PUSH THE FOOD ALONG.
*B. TO ALLOW THE FOOD TO BE ABSORBED.
C. TO PERMIT THE ENZYMES TO ACT.
D. TO PRODUCE INTESTINAL FLUID.

THE CAPILLARIES OF THE VILLI ALLOW FOR THE ABSORPTION OF 0469
A. FATTY ACIDS AND GLYCERIN.
*B. AMINO ACIDS AND GLUCOSE.
C. GLUCOSE AND GLYCERIN.
D. GLYCERIN AND AMINO ACIDS.

THE OF THE VILLUS ALLOWS FOR THE ABSORPTION OF FATTY ACIDS, AND GLYCERIN 0470
A. DUCT
*B. LACTEAL
C. CAPILLARY
D. GLAND

THE LACTEAL OF THE VILLUS ALLOWS FOR THE ABSORPTION OF 0471
*A. FATTY ACIDS AND GLYCERIN.
B. GLYCERIN AND AMINO ACIDS.
C. GLUCOSE AND GLYCERIN.
D. AMINO ACIDS AND GLUCOSE.

IN THE SPACE PROVIDED PLACE THE LETTER THAT CORRESPONDS TO THE 0009

STRUCTURE IT IDENTIFIES. %NEED DIAGRAM OF DIGESTIVE SYSTEM□

*A. SALIVARY GLANDS 472
B. LIVER
C. SMALL INTESTINE
D. ESOPHAGUS
E. STOMACH

A. SALIVARY GLANDS 473
B. LIVER
C. SMALL INTESTINE
*D. ESOPHAGUS
E. STOMACH

A. SALIVARY GLANDS 474
*B. LIVER
C. SMALL INTESTINE
D. ESOPHAGUS
E. STOMACH

A. SALIVARY GLANDS 475
B. LIVER
*C. SMALL INTESTINE
D. ESOPHAGUS
E. STOMACH

*A. GALL BLADDER 476
B. LARGE INTESTINE
C. STOMACH
D. PANCREAS
E. RECTUM

A. GALL BLADDER 478
*B. LARGE INTESTINE
C. STOMACH
D. PANCREAS
E. RECTUM

A. GALL BLADDER 479
B. LARGE INTESTINE
C. STOMACH
*D. PANCREAS
E. RECTUM

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF ENZYMES THAT AID THE DIGESTIVE PROCESS BY IDENTIFYING THE CHEMICAL CHANGES INITIATED BY DIGESTIVE ENZYMES. %8□ 0027

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

ENZYMES THEMSELVES BELONG TO THE CLASS OF 0633
*A. PROTEINS.
B. FATS.
C. CARBOHYDRATES.
D. NONE OF THE ABOVE

AN ENZYME IS A CATALYST WHICH SPEEDS THE PROCESS OF 0634
A. PERISTALSIS.

B. OSMOSIS.
*C. HYDROLYSIS.
D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A CLASS OF DIGESTIVE ENZYMES0 0635
*A. CATALASE
B. LIPASE
C. PROTEINASE
D. CARBOHYDRASE

WHICH ENZYME LISTED IS INVOLVED IN PROTEIN DIGESTION0 0636
A. PEPSIN
B. TRYPSIN
C. EREPSIN
*D. ALL OF THE ABOVE

WHICH SPECIFIC ENZYME IS INVOLVED IN THE DIGESTION OF MALTASE TO GLUCOSE0 0637
A. AMYLASE
*B. MALTASE
C. SUCRASE
D. NONE OF THE ABOVE

CHEMICAL REACTIONS CAN OCCUR DURING DIGESTION AT A TEMPERATURE AS LOW AS 37 DEGREES C BECAUSE 0638
A. THIS IS BODY TEMPERATURE.
B. THE FOOD IS WELL CHEWED.
C. THE FOOD MOLECULES ARE NOT VERY STABLE.
*D. DIGESTION ENZYMES ARE PRESENT.

LIPASE CATALYZES THE DIGESTION OF COMPLICATED FAT MOLECULES AS WELL AS SIMPLE FAT MOLECULES BECAUSE IT 0639
A. REACTS CHEMICALLY WITH FAT MOLECULES.
B. COMBINES DIRECTLY WITH ALL FAT MOLECULES.
*C. WEAKENS THE BONDS OF ANY FAT MOLECULE.
D. DOES NONE OF THE ABOVE

RENNIN IS MORE IMPORTANT TO THE CURDLING OF MILK IN INFANTS THAN IN ADULTS BECAUSE 0640
A. INFANTS DRINK MORE MILK.
B. RENNIN IS AN ENZYME.
C. CURDLING MAKES THE MILK SUITABLE FOR DIGESTION.
*D. THE GASTRIC JUICES OF INFANTS CONTAIN RELATIVELY LITTLE ACID.
E. RENNIN IS FOUND IN THE STOMACH.

****

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF THE ROLE OF DIGESTIVE GLANDS BY IDENTIFYING LOCATIONS AND FUNCTIONS OF THE SALIVARY GLANDS, LIVER, AND PANCREAS. %5□ 0028

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

DIGESTIVE JUICES ARE FOUND IN THE 641
A. SALIVA.
B. INTESTINAL JUICE.
C. GASTRIC JUICE.
D. PANCREATIC JUICE.
*E. ALL OF THE ABOVE

DIGESTIVE GLANDS ARE LOCATED 642
A. ALONG THE WALLS OF THE INTESTINE.
B. IN THE STOMACH.
C. IN THE PANCREAS.
D. NEAR THE MOUTH.
*E. ALL OF THE ABOVE

WHICH OF THE FOLLOWING COMPONENTS OF SALIVA IS THE *LUBRICATING PROTEIN*0 0643
A. WATER
*B. MUCIN
C. INORGANIC SALTS
D. AMYLASE
E. NONE OF THE ABOVE

THE HYDROCHLORIC ACID CONTENT OF THE STOMACH IS *NOT* USEFUL TO 0644
*A. CATALYZE HYDROLYSIS.
B. PROMOTE DIGESTION.
C. ACTIVATE PEPSINOGEN.
D. SOFTEN PROTEIN.
E. DISINFECT.

THE INTESTINAL FLUID WHICH IS IMPORTANT IN THE PRODUCTION OF AMINO ACIDS FROM PROTEINS IS 0645
*A. EREPSIN.
B. LACTASE.
C. MALTASE.
D. SUCRASE.
E. NONE OF THE ABOVE

****

ANIMAL CELLS

THE STUDENT WILL SHOW KNOWLEDGE OF THE CELL BY IDENTIFYING THE COMPOSITION, LOCATION AND FUNCTION FOR THE INDIVIDUAL CELL PARTS. 0029
%21□

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE SMALLEST FUNCTIONAL AND STRUCTURAL UNIT OF LIFE IS CALLED 0509
A. A MOLECULE.
*B. A CELL.
C. AN ATOM.
D. A NUCLEUS.

A CELL IS 510
*A. THE BASIC UNIT OF LIFE.
B. THE BASIC UNIT OF AN ELEMENT.
C. THE SMALLEST UNIT OF AN ELEMENT.

THE CONTROL CENTER OF ALL CELL ACTIVITY IS CALLED 0511
A. THE CYTOPLASM.
B. THE CELL WALL.
*C. THE NUCLEUS.
D. THE VACUOLE.

THE NUCLEUS IS 512

A. THE LIVING SUBSTANCE THAT MAKES UP ALL LIVING THINGS.
*B. THE CONTROL CENTER OF ALL CELL ACTIVITY.
C. THE SEMI-FLUID MATERIAL FILLING MOST OF THE CELL.
D. THE THIN BOUNDARY SEPARATING LIVING CELLS.

THE CELL SUBSTANCE OUTSIDE THE NUCLEUS IS CALLED 0513
A. THE NUCLEOLUS.
B. THE CHROMOSOMES.
C. THE NUCLEOPLASM.
*D. THE CYTOPLASM.

THE CYTOPLASM OF A CELL IS 514
*A. THE SUBSTANCE OUTSIDE THE NUCLEUS.
B. THE CONTROL CENTER OF ALL CELL ACTIVITY.
C. THE SUBSTANCE ACTING AS THE GENETIC CODE OF THE ORGANISM.
D. THE BOUNDARY SEPARATING THE CELL FROM NEIGHBORING CELLS.

THE LIVING SUBSTANCE THAT MAKES UP ALL LIVING THINGS IS CALLED 0515
A. CYTOPLASM.
B. NUCLEOPLASM.
*C. PROTOPLASM.
D. CHROMOPLASM.

PROTOPLASM IS 516
A. THE CONTROL CENTER OF ALL CELL ACTIVITY.
*B. THE SUBSTANCE THAT MAKES UP ALL LIVING THINGS.
C. A SUBSTANCE FOUND ONLY IN PLANT CELLS.
D. A SUBSTANCE FOUND ONLY IN ANIMAL CELLS.

A TISSUE IS 517
*A. A GROUP OF STRUCTURALLY AND FUNCTIONALLY SIMILAR CELLS.
B. A GROUP OF CELLS HAVING NO DIRECT FUNCTIONAL RELATIONSHIP.
C. A RADIOACTIVE SUBSTANCE TAKEN IN BY A GROUP OF CELLS.
D. A COMPLEX ORGANIC COMPOUND FOUND BETWEEN THE FIBERS OF CELLULOSE.

A GROUP OF STRUCTURALLY AND FUNCTIONALLY SIMILAR CELLS IS CALLED 0518
A. AN ORGAN.
B. A SYSTEM.
*C. A TISSUE.
D. AN ORGANELLE.

SEVERAL TISSUES FUNCTIONING AS A UNIT ARE CALLED 0519
A. A CELL.
*B. AN ORGAN.
C. A SYSTEM.
D. AN ORGANELLE.

****

THE STUDENT WILL RECALL FACTS ABOUT CELL STRUCTURE AND FUNCTION BY IDENTIFYING THEM IN A LIST. %10□ 0153

DIRECTIONS - CIRCLE THE LETTER OF THE CORRECT ANSWER.

THE LIVING COVERING OF A CELL IS CALLED 1800
A. THE NUCLEUS.
*B. THE CELL MEMBRANE.
C. THE NUCLEAR MEMBRANE.

D. THE CYTOPLASM.

THE PART OF THE CELL THAT SEEMS TO CONTROL CELL ACTIVITY IS CALLED 1801
*A. THE NUCLEUS.
B. THE PROTOPLASM.
C. THE CYTOPLASM.
D. THE MITOCHONDRIA.

A NON-LIVING PART OF SOME CELLS IS CALLED 1802
A. NUCLEUS.
B. CYTOPLASM.
C. CELL MEMBRANE.
*D. CELL WALL.

THE LIVING MASS OF A CELL NOT COUNTING THE NUCLEUS IS CALLED THE 1803
A. CELL MEMBRANE.
B. CHLORAPLAST.
*C. CYTOPLASM.
D. MITOCHONDRIA.

THE PART OF THE CELL THAT RELEASES ENERGY IS THE 1804
A. NUCLEUS.
B. CYTOPLASM.
C. CHLORAPLAST.
*D. MITOCHONDRIA.

IN CERTAIN CELLS THE PART THAT CAN CONVERT LIGHT ENERGY INTO STORED ENERGY IS CALLED THE 1805
A. MITOCHONDRIAN.
*B. CHLOROPLAST.
C. NUCLEUS.
D. CELL MEMBRANE.

THE PART OF THE CELL THAT LETS MATERIALS IN AND OUT OF THE CELL IS THE 1806
A. CHLOROPLAST.
B. CYTOPLASM.
*C. CELL MEMBRANE.
D. NUCLEUS.

THE STRUCTURE THAT SEEMS TO BE MOST INVOLVED WITH THE REPRODUCTION OF THE CELL IS THE 1807
A. MITOCHONDRIAN.
B. CELL MEMBRANE.
*C. NUCLEUS.
D. CYTOPLASM.

THE STRUCTURES IN THE CELL THAT SEEM TO HAVE THE MOST TO DO WITH HEREDITY ARE 1808
*A. CHROMOSOMES.
B. VACUOLES.
C. MITOCHONDRIA.
D. CELL MEMBRANES.

VACUOLES IN THE CELL SEEM TO HAVE THE MOST TO DO WITH 1809
A. REPRODUCTION AND HEREDITY.
B. RELEASING AND CAPTURING ENERGY.
*C. GETTING FOOD AND RELEASING WASTE.
D. EXCHANGING OXYGEN AND CARBON DIOXIDE.

THE STUDENT WILL ANALYZE A SERIES OF FACTS AND RECOGNIZE THOSE WHICH ARE RELEVANT TO A SERIES OF STATEMENTS. %8¤ 0154

DIRECTIONS - BELOW IS A SERIES OF DIFFERENT FACTS. READ THE FACTS AND DETERMINE WHICH FACT FITS THE NUMBERED STATEMENTS. CIRCLE THE LETTER OF THE CORRECT STATEMENT. A LETTER MAY BE USED MORE THAN ONE TIME.

A. AN ANIMAL IS EXAMINED AND ANOTHER SMALL ANIMAL IS FOUND LIVING INSIDE OF IT. THIS SMALL ANIMAL IS CALLED A PARASITE AND DOES *NOT* HAVE A DIGESTIVE SYSTEM.
B. EXPERIMENTS SHOW THAT ONLY MATERIALS OF VERY SMALL SIZES %MOLECULE SIZE¤ CAN BE USED BY CELLS AND THERE CAN MOVE ONLY THROUGH ONE OR TWO CELLS.
C. A GROUP OF WATER ANIMALS SEEM TO BE ONLY TWO OR THREE LAYERS OF CELLS THICK AND DO NOT HAVE HIGHLY DEVELOPED PARTS.
D. LARGE AREAS OF CELL MEMBRANES ARE FOUND TO BE NECESSARY TO ABSORB OR RELEASE LARGE QUANTITIES OF MATERIALS.
E. ORGANISMS OVER A CERTAIN *SIZE* AND *VOLUME* CAN,T MOVE WELL OR KEEP THEIR SHAPE WELL WITHOUT THE PROPER TISSUES AND ORGANS.

AN EXAMINATION OF A LUNG SHOWS MILLIONS OF AIR SACS. THE AIR SACS FLATTENED OUT COULD COVER A TENNIS COURT. 1810

A. A
B. B
C. C
*D. D
E. E

SOME BIOLOGISTS BELIEVE THAT SYSTEMS DO NOT DEVELOP WHEN THEY ARE NOT NEEDED OR DISAPPEAR WHEN NOT USED. 1811

*A. A
B. B
C. C
D. D
E. E

IT SEEMS THAT WHEN AN ORGANISM STARTS TO GET THICKER AND MORE COMPLICATED IT MUST DEVELOP SOME KIND OF CIRCULATION SYSTEM. 1812

A. A
*B. B
C. C
D. D
E. E

EXAMINATION OF A HUMAN SHOWS ABOUT TWENTY FEET OF INTESTINE IN A SMALL SPACE AND THAT THE INSIDE OF THE INTESTINE IS FOLDED OVER AND OVER. 1813

A. A
B. B
C. C
*D. D
F. F

SYSTEMS AND ORGANS SEEM TO BE NECESSARY WHEN CELLS ARE TOO *FAR* FROM NEEDED SOURCES OF SUPPLY OR AREAS TO RECEIVE WASTES. 1814

A. A

B. B
*C. C
D. D
E. D

SOME SOUTH AMERICAN EARTH WORMS ARE LONGER THAN MANY SNAKES BUT SNAKES MOVE MUCH FASTER. 1815
A. A
B. B
C. C
D. D
*F. E

THERE IS NEED FOR DIGESTION REGARDLESS OF HOW LARGE OR SMALL AN ANIMAL IS. 1816
A. A
*B. B
C. C
D. D
E. E

SOME ORGANISMS ACTUALLY LIVE OFF OF ANOTHER ANIMAL,S FOOD SUPPLY. 1817
*A. A
B. B
C. C
D. D
E. F

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE LEVELS OF BIOLOGICAL ORGANIZATION BY IDENTIFYING THE NAMES AND CHARACTERISTICS OF THE FIVE BIOLOGICAL LEVELS. %5n 0030

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

AN ORGAN IS 520
A. A RADIOACTIVE SUBSTANCE TAKEN IN BY A GROUP OF CELLS.
B. A GROUP OF CELLS HAVING NO DIRECT FUNCTIONAL RELATIONSHIP.
*C. A GROUP OF TISSUES FUNCTIONING AS A UNIT.
D. A COMPOUND FOUND IN A NUCLEUS OF ALL LIVING CELLS.

THE FIRST LEVEL OF ORGANIZATION OF LIVING THINGS IS 0521
A. THE SYSTEM LEVEL.
B. THE TISSUE LEVEL.
C. THE ORGAN LEVEL.
*D. THE CELLULAR LEVEL.

THE SECOND LEVEL OF ORGANIZATION OF LIVING THINGS IS 0522
A. THE CELLULAR LEVEL.
B. THE SYSTEM LEVEL.
*C. THE TISSUE LEVEL.
D. THE ORGAN LEVEL.

THE THRID LEVEL OF BIOLOGICAL ORGANIZATION IS 0523
A. THE TISSUE LEVEL.
*B. THE ORGAN LEVEL.
C. THE SYSTEM LEVEL.
D. THE CELLULAR LEVEL.

THE FOURTH LEVEL OF BIOLOGICAL ORGANIZATION IS 0524
A. THE ORGAN LEVEL.
*B. THE SYSTEM LEVEL.
C. THE TISSUE LEVEL.
D. THE CELLULAR LEVEL.

SEVERAL ORGANS COOPERATING AS A FUNCTIONAL UNIT ARE CALLED 0525
A. A TISSUE.
B. A CELL.
*C. A SYSTEM.
D. A COLONY.

A SYSTEM IS A GROUP OF 526
A. CELLS HAVING NO DIRECT FUNCTIONAL RELATIONSHIP.
B. TISSUES FUNCTIONING AS A UNIT.
*C. ORGANS FUNCTIONING AS A UNIT.
D. CELLS HAVING A DIRECT FUNCTIONAL RELATIONSHIP.

THE FIFTH LEVEL OF BIOLOGICAL ORGANIZATION IS 0534
A. THE CELL LEVEL.
B. THE TISSUE LEVEL.
C. THE SYSTEM LEVEL.
*D. THE ORGANISM LEVEL.

THE FRAMEWORK OF THE BODY IS CALLED 535
*A. THE SKELETON.
B. THE SKIN.
C. THE SPINE.
D. THE EPIDERMIS.

****

THE STUDENT CAN APPLY HIS KNOWLEDGE ON THE MAINTENANCE OF LIFE AND HOW IT RELATES TO THE FOOD CYCLE OF FISH, BY SELECTING THOSE CONDITIONS THAT ARE NECESSARY FOR THE EXISTENCE OF THIS CYCLE. 0162
%2□

FISH CAN CARRY ON ALL OF THE FOLLOWING FUNCTIONS *EXCEPT* 1844
A. BREATHING
*B. MANUFACTURING ITS OWN FOOD.
C. REPRODUCTION
D. SWIMMING

THE REMAINS OF DEAD ANIMALS AND PLANTS FALL TO THE BOTTOM OF THE OCEAN. ANIMALS FEED ON THESE REMAINS AND RELEASE MINERALS. WHICH OF THE FOLLOWING EXPLAINS HOW THESE MINERALS ARE PASSED TO FISH? 1845
A. THE FISH OBTAIN MINERALS BY SWALLOWING THE OCEAN WATER.
*B. THE FISH OBTAIN MINERALS BY EATING SEAWEED WHICH HAD FED ON THE REMAINS.
C. THE FISH OBTAIN MINERALS BY EATING THE REMAINS OF DEAD ANIMALS.
D. NONE OF THE ABOVE

****

THE STUDENT WILL SHOW UNDERSTANDING OF PROTOPLASM BY IDENTIFYING ITS PHYSICAL AND CHEMICAL CHARACTERISTICS. %5□ 0031

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH STATEMENT WOULD YOU BE *LEAST* LIKELY TO READ IN A BIOLOGY TEXTBOOK0 0617
A. ALL PROTOPLASM CONSISTS OF CHEMICAL SUBSTANCES.
B. PROTOPLASM IS ALWAYS CHANGING.
C. PROTOPLASM IS A COLLOIDAL SUSPENSION IN WATER.
*D. PROTOPLASM HAS BEEN MADE IN THE LABORATORY.

WHICH IS *NOT* TRUE OF PROTOPLASM0 618
*A. HAS A KNOWN CHEMICAL FORMULA
B. CONSISTS MOSTLY OF THE ELEMENTS OXYGEN, CARBON, HYDROGEN AND NITROGEN
C. CONTAINS PROTEINS, CARBOHYDRATES AND FATS
D. IS LIVING MATTER

WITHIN THE SAME ORGANISM IT IS TRUE THAT 0619
A. PROTOPLASM FOUND IN ONE PART DIFFERS FROM THAT FOUND IN ANOTHER PART.
B. ALL PROTOPLASM HAS THE SAME AMOUNT OF WATER.
C. THE MINERAL CONTENT OF THE PROTOPLASM IS CONSTANT.
D. ALL SUBSTANCES IN PROTOPLASM EXCEPT WATER ARE ORGANIC.

IT IS IMPORTANT TO GOOD HEALTH THAT PROTOPLASM CONTAINS ABOUT 67% WATER BECAUSE WATER IS 0620
A. INEXPENSIVE.
B. THE *UNIVERSAL* SOLVENT.
C. INORGANIC.
*D. HEAT-RETAINING.
E. A STABLE COMPOUND.

WHICH OF THE FOLLOWING DOES *NOT* CONTAIN PROTOPLASM0 0621
A. BACTERIUM
B. NUTSHELL
C. PROTOPLASM
D. JELLYFISH
*E. GLUCOSE

****

AFTER STUDYING THE CHARACTERISTICS OF BACTERIA AND MOLD, THE STUDENT CAN APPLY THIS INFORMATION TO DISTINGUISH WHETHER A GIVEN MICROORGANISM IS A BACTERIA OR MOLD. %3□ 0163

IF THE MICROORGANISM GROWS BEST UNDER MOIST CONDITIONS, IT IS PROBABLY 1846
A. MOLD.
B. BACTERIA.
*C. BOTH
D. NEITHER.

IF A MICROORGANISM REPRODUCES ITSELF BY CELL DIVISION, IT IS TYPICAL OF A 1847
A. MOLD.
*B. BACTERIA.
C. BOTH
D. NEITHER

IF A MICROORGANISM IS BOTH HARMFUL AND HELPFUL TO MAN, IT CAN BE TYPICAL OF A 1848
*A. MOLD.

B. BACTERIA
*C. BOTH
D. NEITHER

****

AFTER STUDYING THE REPRODUCTIVE SYSTEM OF BACTERIA, THE STUDENT CAN DETERMINE THE PROBABLE OUTCOME OF MULTIPLICATION OF THESE ORGANISMS BY ANALYZING THEM UNDER GIVEN CONDITIONS. %3¤ 0164

DIRECTIONS - READ THE FOLLOWING PARAGRAPH, AND ANSWER THE QUESTIONS BELOW.

AN ISOLATED BACTERIUM IS ON A SUBSTANCE IN A ROOM WITH NO WINDOW. THE ROOM IS DRY, BUT VERY WARM. NO LIGHT IS EVIDENT IN THE ROOM. CONSIDER THESE CONDITIONS, AND ANSWER THE FOLLOWING QUESTIONS.

AS TO THE POSSIBILITY OF THIS BACTERIUM DIVIDING, IT 1849
*A. CAN DIVIDE.
B. CANNOT DIVIDE.
C. NOT ENOUGH INFORMATION

IN ORDER FOR THE FASTEST GROWTH OF THE BACTERIA THE ROOM WOULD NEED 1850
*A. MORE MOISTURE.
B. MORE LIGHT.
C. BOTH OF THE ABOVE
D. NONE OF THE ABOVE

UNDER PERFECT CONDITIONS IN THIS ROOM, THE GROWTH OF BACTERIA 1851
A. WILL STOP IN AN HOUR.
*B. WILL CONTINUE UNTIL THE CONDITIONS ARE CHANGED.
C. NOT ENOUGH INFORMATION GIVEN

****

THE STUDENT WILL APPLY THE DEFINITIONS OF *HELPFUL* AND *HARMFUL* TO DECIDE WHETHER A GIVEN DESCRIPTION OF BACTERIA HAS A HELPFUL OR HARMFUL EFFECT. %4¤ 0165

WHEN BACTERIA KEEPS THE SOIL FERTILE BY MAKING NITROGEN, THE BACTERIA HAS AN EFFECT THAT IS 1852
*A. HELPFUL.
B. HARMFUL.
C. BOTH

WHEN BACTERIA IS A CAUSE FOR SPOILAGE OF FOOD, THE BACTERIA HAS EFFECT THAT IS 1853
A. HELPFUL.
*B. HARMFUL.
C. BOTH

WHEN BACTERIA INFLUENCES THE DECAY OF THINGS THAT HAVE DIED, THE EFFECT OF THE BACTERIA IS 1854
*A. HELPFUL.
B. HARMFUL.
C. BOTH

IF BACTERIA ENTERS THE BODY, AND CAUSES TISSUES TO BECOME DISEASED, THE EFFECT OF BACTERIA IS 1855
A. HELPFUL.
*B. HARMFUL.
C. BOTH

****

THE STUDENT WILL COMPREHEND WHETHER OR NOT A MOLD IS HELPFUL BY SELECTING ITS EFFECT ON HARMFUL BACTERIA. %2□ 0166

A GROWTH OF PENICILLIN MOLD DEVELOPED IN A CULTURE DISH WHERE A COLONY OF BACTERIA HAD BEEN EXPECTED.

FROM THIS INFORMATION, IT WOULD APPEAR THAT THE PENICILLIN HAD 1856
A. NO EFFECT ON THE BACTERIA.
*B. A NOTICEABLE EFFECT ON THE BACTERIA.
C. NOT ENOUGH INFORMATION GIVEN.

IF THE BACTERIA WERE HARMFUL THE EFFECT OF THE MOLD ON IT WOULD BE 1857
*A. HELPFUL.
B. HARMFUL.
C. BOTH

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE FIVE CLASSES OF BODY TISSUE BY SELECTING THE NAMES, COMPOSITION, AND FUNCTION FOR EACH CLASS. %1□ 0032

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE FOUR TYPES OF TISSUE ARE 527
A. CONNECTIVE, MUSCLE, BONE AND LIQUID.
B. MUSCLE, CARTILAGE, NERVE AND EPITHELIAL.
C. CONNECTIVE, BONE, NERVE AND MUSCLE.
*D. CONNECTIVE, MUSCLE, NERVE AND EPITHELIAL.

THE TYPE OF TISSUE THAT COVERS THE BODY SURFACE INSIDE AND OUTSIDE IS CALLED 0528
A. FIBROELASTIC.
*B. EPITHELIAL.
C. ADIPOSE.
D. CARTILAGE.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE THREE TYPES OF MUSCLE TISSUE BY IDENTIFYING THE LOCATION AND CHARACTERISTICS OF EACH TYPE. %5□ 0033

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE THREE TYPES OF MUSCLE TISSUE ARE 529
*A. CARDIAC SMOOTH AND SKELETAL.
B. SMOOTH, ADIPOSE AND RETICULAR.
C. CARDIAC, RETICULAR AND SMOOTH.

C ADIPOSE, SKIN A AND SMOOTH.

BONE, CARTILAGE, FAT AND BLOOD ARE ALL TYPES OF 0530
A. NERVE TISSUE.
*B. CONNECTIVE TISSUE.
C. EPITHELIAL TISSUE.
D. MUSCLE TISSUE.

THE TYPE OF MUSCLE THAT FORMS THE WALL OF MANY INTERNAL ORGANS IS CALLED 0531
A. CARDIAC.
*B. SMOOTH.
C. STRIATED.
D. ADIPOSE.

SMOOTH MUSCLE 532
*A. FORMS THE WALLS OF MANY INTERNAL ORGANS.
B. CONNECTS BONE TO SKELETAL MUSCLE.
C. FORMS THE WALLS OF THE HEART.

CARDIAC MUSCLE 533
A. FORMS THE WALL OF MANY INTERNAL ORGANS.
B. CONNECTS BONE TO BONE.
*C. IS THE INVOLUNTARY MUSCLE FOUND IN THE HEART.
D. IS THE VOLUNTARY MUSCLE OF THE SKELETON.

****

NERVOUS SYSTEM

THE STUDENT WILL SHOW KNOWLEDGE OF THE CENTRAL NERVOUS SYSTEM BY IDENTIFYING ITS PARTS AND THEIR INDIVIDUAL FUNCTIONS. %15□ 0034

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH OF THE FOLLOWING KINDS OF NEURONS ARE REQUIRED TO REACT TO A MOSQUITO ON YOUR ARM BY BRUSHING IT OFF□ 0593
A. SENSORY
B. ASSOCIATION
C. MOTOR
*D. ALL OF THE ABOVE

IF A HEAT RECEPTOR BECOMES ATTACHED BY A NERVE TO THE COLD SENSING PART OF THE BRAIN, THEN IT WILL SENSE HEAT AS 0594
*A. COLD.
B. TINGLING.
C. NUMBNESS.
D. NO SENSITIVITY.
E. NO CHANGE.

THE ENERGY TRANSMITTED BY ANY NERVE 595
A. GOES THROUGH THE SPINAL CORD.
B. MOVES INSTANTLY TO THE SPINAL CORD.
C. MOVES DIRECTLY TO THE BRAIN.
*D. MOVES TO A SPECIFIC PLACE.
E. ALL OF THE ABOVE

THE PHYSICIAN WHO TAPS THE PATIENT'S KNEE DURING A PHYSICAL EXAMINATION IS STUDYING 0596

A. A REFLEX ACTION.
B. THE CONDITION OF THE NERVES AND SPINAL CORD.
C. AN EXAMPLE OF BODY ACTIVITY INDEPENDENT OF THE BRAIN.
D. AN ACTION INTERPRETED BY THE SPINAL CORD.
*E. ALL OF THE ABOVE

IT IS TRUE THAT THE AUTONOMIC NERVOUS SYSTEM 0597
A. IS MADE UP OF TWO DISTINCT PARTS WITH OPPOSITE ACTIVITIES.
B. CONTROLS INVOLUNTARY ACTIONS OF ORGANS.
C. HAS IMPORTANT RELAY POINTS CALLED GANGLIA.
*D. HAS ALL THE ABOVE CHARACTERISTICS.
E. HAS NONE OF THE ABOVE CHARACTERISTICS

****

THE STUDENT WILL DIFFERENTIATE BETWEEN MOTOR, SENSORY AND CRANIAL NERVES BY LISTING DESCRIPTIVE TERMS THAT CHARACTERIZE THE FUNCTION OF EACH. %4□ 0035

WHAT TYPE OF NERVE ARISES FROM THE RETINA. 1720
*A. SENSORY
B. MOTOR
C. CRANIAL

WHICH NERVE HAS NO GANGLIA 1721
A. SENSORY
*B. MOTOR
C. CRANIAL

WHICH NERVES ARE AFFERENT 1722
*A. SENSORY
B. MOTOR
C. CRANIAL

WHICH NERVES ARE EFFERENT 1723
A. SENSORY
*B. MOTOR
C. CRANIAL

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF THE ANATOMY OF A NERVE CELL BY MATCHING COMPONENT PARTS OF THE NERVE CELL IN A GIVEN DIAGRAM. %5□ 0036

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

THE SHAPE OF A NERVE CELL IS 851
A. STAR-SHAPED.
B. ROUNDED.
*C. BOTH 1 AND 2
D. NONE OF THE ABOVE

REFER TO STANDARD DIAGRAM OF NERVE CELL WITH PARTS LETTERED TO CORRESPOND TO LETTERS BELOW.

THE AXON IS AREA NUMBER *A 852

THE SYNAPSE IS AREA NUMBER *D 853

THE DENDRITES ARE AREA NUMBER *E 854

THE NUCLEUS IS AREA NUMBER *B 855

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE HUMAN BRAIN BY IDENTIFYING THE RELATIVE SIZE AND FUNCTIONS OF ITS COMPONENT PARTS. %7n 0037

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE THREE MAIN PARTS OF THE BRAIN ARE THE 0857
A. SPINAL CORD, DENDRITES, AND SYNAPSE.
*B. MEDULLA, CEREBELLUM, AND CEREBRUM.
C. MEDULLA, SPINAL CORD, AND SENSORY AREA.
D. SPINAL CORD, CEREBELLUM, AND CEREBRUM.

THE LARGEST AREA OF THE BRAIN IS THE 858
A. MEDULLA.
*B. CEREBRUM.
C. SPINAL CORD.
D. CEREBELLUM.

THE AREA OF THE BRAIN THAT CONTROLS YOUR INTELLECTUAL AND REASONING CAPACITIES IS THE 0859
A. MEDULLA.
*B. CEREBRUM.
C. SPINAL CORD.
D. CEREBELLUM.

THE AREA OF THE BRAIN THAT STRENGTHENS THE IMPULSES TRANSMITTED TO THE BODY IS THE 0860
A. MEDULLA.
B. CEREBRUM.
C. SPINAL CORD.
*D. CEREBELLUM.

THE AREA OF THE BRAIN THAT HELPS TO BALANCE YOUR BODY IS THE 0861
A. MEDULLA.
B. CEREBRUM.
C. SPINAL CORD.
*D. CEREBELLUM.

THE PART OF THE BRAIN THAT CONTROLS THE BODY,S RESPIRATION RATE IS THE 0862
*A. MEDULLA.
B. CEREBRUM.
C. SPINAL CORD.
D. CEREBELLUM.

THE PART OF THE BRAIN THAT CONTROLS THE HEART,S ACTION IS THE 0863
*A. MEDULLA.
B. CEREBRUM.
C. SPINAL CORD.
D. CEREBELLUM.

****

SKELETAL SYSTEM

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE FUNCTION OF THE SKELETAL SYSTEM BY IDENTIFYING ITS PRIMARY BODY FUNCTIONS. %2¤ 0038

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE FUNCTION OF THE IS TO SUPPORT THE BODY, TO ALLOW FOR ATTACHMENT OF MUSCLES AND TO PROTECT DELICATE ORGANS. 0536

A. SKIN
B. NERVES
*C. SKELETON
D. TENDONS

WHICH OF THE FOLLOWING IS *NOT* A FUNCTION OF THE SKELETON0 0537

A. SUPPORT THE BODY
B. ALLOW FOR ATTACHMENT OF MUSCLES
*C. PREVENT THE LOSS OF WATER
D. PROTECTION OF DELICATE ORGANS

****

THE STUDENT WILL DISTINGUISH BETWEEN THE AXIAL AND APPENDICULAR DIVISIONS OF THE SKELETAL SYSTEM BY IDENTIFYING THE BONES THAT PERTAIN TO EACH DIVISION. %3¤ 0040

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE CRANIAL SKELETON IS FOUND IN THE 965

*A. HEAD.
B. ARMS AND LEGS.
C. TRUNK OF THE BODY.

THE AXIAL SKELETON IS FOUND IN THE 966

A. HEAD.
B. ARMS AND LEGS.
*C. TRUNK OF THE BODY.

THE APPENDICULAR SKELETON IS FOUND IN THE 0967

A. HEAD.
*B. ARMS AND LEGS.
C. TRUNK OF THE BODY.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE TWO TYPES OF JOINTS BY IDENTIFYING CHARACTERISTICS AND EXAMPLES OF BOTH FIXED AND MOVABLE JOINTS. %10¤ 0041

MATCH THE LOCATION WITH THE TYPE OF JOINT. 17

THE POINT AT WHICH TWO BONES COME TOGETHER IS CALLED 0543

*A. A JOINT.
B. A LOCUS.
C. A CANAL.

A JOINT IS 544
A. MADE UP OF YELLOW MARROW.
*B. THE POINT AT WHICH TWO BONES COME TOGETHER.
C. MADE UP OF RED MARROW.
D. THE PLACE AT WHICH A MUSCLE JOINS A BONE.

HIP 545
A. HINGE JOINT
*B. BALL AND SOCKET JOINT
C. GLIDING JOINT
D. IMMOVABLE JOINT
E. PIVOT JOINT

SKULL 546
A. HINGE JOINT
B. BALL AND SOCKET JOINT
C. GLIDING JOINT
*D. IMMOVABLE JOINT
E. PIVOT JOINT

LOWER JAW 547
*A. HINGE JOINT
B. BALL AND SOCKET JOINT
C. GLIDING JOINT
D. IMMOVABLE JOINT
E. PIVOT JOINT

VERTEBRAE 548
A. HINGE JOINT
B. BALL AND SOCKET JOINT
*C. GLIDING JOINT
D. IMMOVABLE JOINT
E. PIVOT JOINT

****

THE STUDENT RECOGNIZES THE ROLE OF CARTILAGE, LIGAMENTS AND TENDONS BY IDENTIFYING THEIR DEFINITIONS AND FUNCTIONS IN THE SKELETAL SYSTEM. %6□ 0042

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE TISSUE THAT CONNECTS BONE TO MUSCLE SO THAT THE BONE CAN MOVE IS CALLED 0968 968
*A. TENDON.
B. MUSCLE.
C. LIGAMENT.
D. NERVE.

THE TISSUE THAT CONNECTS BONE TO BONE IN ORDER TO KEEP THE PROPER SHAPE AND SUPPORT IS CALLED 0969
A. TENDON.
B. MUSCLE.
*C. LIGAMENT.
D. NERVE.

LIGAMENTS ARE TOUGH STRANDS OF 549
A. CONNECTING TISSUE THAT ATTACH MUSCLE TO BONE.

*B. CONNECTIVE TISSUE THAT HOLD BONES TOGETHER AT A JOINT.
C. MUSCLE TISSUE THAT HOLD CARTILAGE IN PLACE AT A JOINT.
D. MUSCLE TISSUE THAT CONNECT BONE TO BONE.

TOUGH BANDS OF CONNECTIVE TISSUE THAT HOLD BONES TOGETHER AT THE JOINT ARE CALLED 0550
A. MUSCLES.
B. TENDONS.
*C. LIGAMENTS.
D. CARTILAGE.

TOUGH BANDS OF CONNECTIVE TISSUE THAT ATTACH SOME MUSCLES TO BONES ARE CALLED 0551
A. MUSCLES.
*B. TENDONS.
C. LIGAMENTS.
D. CARTILAGE.

TENDONS ARE TOUGH BANDS OF 552
A. MUSCLE TISSUE THAT HOLD CARTILAGE IN PLACE AT A JOINT.
*B. CONNECTIVE TISSUE THAT ATTACH MUSCLES TO BONE.
C. MUSCLE TISSUE THAT CONNECT BONE TO BONE.
D. CONNECTIVE TISSUE THAT HOLD BONES TOGETHER AT THE JOINT.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE DIFFERENT TYPES OF MOVABLE JOINTS BY MATCHING A JOINT WITH ITS CHARACTERISTICS AND LOCATION. %4m 0043

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE JOINT BETWEEN THE SHOULDER AND UPPER ARM IS CALLED A 0970
A. HINGE JOINT.
*B. BALL AND SOCKET JOINT.
C. SLIDING JOINT.
D. PIVOT JOINT.

THE JOINT BETWEEN THE LOWER AND UPPER LEG IS CALLED A 0971
*A. HINGE JOINT.
B. BALL AND SOCKET JOINT.
C. SLIDING JOINT.
D. PIVOT JOINT.

THE JOINT BETWEEN THE HAND AND LOWER ARM OR BETWEEN THE FOOT AND LOWER LEG IS CALLED A 0972
A. HINGE JOINT.
B. BALL AND SOCKET JOINT.
*C. SLIDING JOINT.
D. PIVOT JOINT.

THE JOINT BETWEEN THE UPPER PART OF THE NECK AND THE HEAD IS CALLED A 0973
A. HINGE JOINT.
B. BALL AND SOCKET JOINT.
C. SLIDING JOINT.
*D. PIVOT JOINT.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE FUNCTIONS OF THE LONG BONES BY IDENTIFYING THE PART OF THE BONE THAT ACCOMPLISHES A SPECIFIED FUNCTION. %4□ 0044

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE PART OF THE BONE THAT PRODUCES BLOOD IS 0974
A. THE YELLOW MARROW.
*B. THE RED MARROW.
C. THE BONY LAYER.
D. THE HONEYCOMB BONE.
E. THE GROWTH PLATE.

THE PART THAT ALLOWS THE BONE TO GET LONGER IS 0975
A. THE YELLOW MARROW.
B. THE RED MARROW.
C. THE BONY LAYER.
D. THE HONEYCOMB BONE.
*E. THE GROWTH PLATE.

THE PART OF THE BONE THAT SUPPORTS MOST OF THE WEIGHT IS 0976
A. THE YELLOW MARROW.
B. THE RED MARROW.
*C. THE BONY LAYER.
D. THE HONEYCOMB BONE.
E. THE GROWTH PLATE.

THE PART OF THE BONE THAT DISTRIBUTES THE WEIGHT IS 0977
A. THE YELLOW MARROW.
B. THE RED MARROW.
C. THE BONY LAYER.
*D. THE HONEYCOMB BONE.
E. THE GROWTH PLATE.

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE FUNCTIONS OF THE DIFFERENT JOINTS OF THE BODY BY IDENTIFYING ANALOGOUS FUNCTIONAL RELATIONSHIPS. %2□ 0045

DIRECTIONS-- BELOW IS A SERIES OF STATEMENTS AND FOUR LETTERED BODY JOINTS. EACH STATEMENT DESCRIBES THE ACTION OF SOME COMMON ITEM. CIRCLE THE LETTER OF THE TYPE OF BODY JOINT THAT HAS AN ACTION LIKE THE STATEMENT. A LETTER MAY BE USED MORE THAN ONE TIME. 0035
A. HINGE JOINT
B. BALL AND SOCKET
C. SLIDING JOINT
D. PIVOT JOINT

A* B C D THE ACTION OF A KITCHEN CABINET DOOR. 0978

A B C D* THE ACTION OF A ROTATING LAWN SPRINKLER. 0979

A B* C D THE ACTION OF THE REAR VIEW MIRROR IN A CAR. 0980

A* B C D THE ACTION OF A REFRIGERATOR DOOR. 0981

A B C* D THE ACTION OF DRAW DRAPES. 0982

A B C D* THE ACTION OF A FERRIS WHEEL. 0983

A B* C D THE ACTION OF THE BUILT-IN ANTENNA ON A T.V. SET OR RADIO. 0984

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE ENDOCRINE GLANDS BY IDENTIFYING THE LOCATION, FUNCTIONS AND HORMONES PRODUCED BY GLANDS OF THE SYSTEM. %20M 0047

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE PITUITARY GLAND IS LOCATED 814
A. BELOW THE VOICE BOX.
B. IN BACK OF THE THYROID GLAND.
*C. AT THE BOTTOM OF THE BRAIN.
D. NONE OF THE ABOVE

THE THYROID GLAND IS LOCATED 815
*A. BELOW THE VOICE BOX.
B. ON TOP OF THE KIDNEYS.
C. AT THE BOTTOM OF THE BRAIN.
D. NONE OF THE ABOVE

THE PARATHYROID GLANDS ARE LOCATED 816
A. ON TOP OF THE KIDNEYS.
*B. BEHIND THE THYROID GLAND.
C. IN THE PANCREAS.
D. NONE OF THE ABOVE

THE ISLANDS OF LANGERHANS ARE LOCATED 0817
A. ON TOP OF THE KIDNEYS.
*B. IN THE PANCREAS.
C. BEHIND THE THYROID GLAND.
D. NONE OF THE ABOVE

THE ADRENAL GLANDS ARE LOCATED 818
A. AT THE BOTTOM OF THE BRAIN.
B. IN THE PANCREAS.
*C. ON TOP OF THE KIDNEYS.
D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING HORMONES IS SECRETED BY THE PITUITARY GLAND 0819
A. THYROXIN
*B. GROWTH HORMONE
C. PARATHORMONE
D. ADRENALIN
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING HORMONES IS SECRETED BY THE THYROID GLAND 0820
*A. THYROXIN
B. GROWTH HORMONE
C. PARATHORMONE
D. INSULIN
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING HORMONES IS SECRETED BY THE PARATHYROID 0821

GLANDS0
A. THYROXIN
B. ADRENALIN
C. INSULIN
*D. PARATHORMONE
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING HORMONES IS SECRETED BY THE ISLANDS OF LANGERHANSO 0822
*A. INSULIN
B. ADRENALIN
C. GROWTH HORMONE
D. PARATHORMONE
F. NONE OF THE ABOVE

WHICH OF THE FOLLOWING HORMONES IS SECRETED BY THE ADRENAL GLANDSO 0823
A. INSULIN
B. PARATHORMONE
C. THYROXIN
D. GROWTH HORMONE
*E. NONE OF THE ABOVE

DIRECTIONS-- MATCH THE FOLLOWING ITEMS BY PLACING A CIRCLE AROUND THE PROPER LETTER. A LETTER MAY BE USED MORE THAN ONCE. 0036
A. ADRENAL
B. THYROID
C. PITUITARY
D. OVARY
E. PANCREAS

A B* C D E CONTROLS RATE OF FOOD USAGE 0985

A B C D* E CONTROLS FEMALE CHARACTERISTICS 0987

A B C* D E CONTROLS GROWTH 988

A* B C D E CONTROLS MUSCLE ACTION 0989

A B C* D E CONTROLS OTHER GLANDS 990

A B C D E* CONTROLS SUGAR BALANCE 0992

A* B C D E CONTROLS HEAT RATE 993

A B C D* E CONTROLS PREGNANCY 994

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE MALFUNCTIONS OF THE ENDOCRINE GLANDS BY IDENTIFYING THE MOST PROBABLE CAUSE FOR ABNORMAL CONDITIONS TO EXIST IN THE HUMAN BODY. %5□ 0048

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A MALFUNTION OF WHICH GLAND OR GLANDS MAY RESULT IN A CHILD BECOMING A MIDGET 0824
A. ADRENAL GLANDS
*B. PITUITARY GLAND
C. THYROID GLAND

D. PARATHYROID GLANDS
E. NONE OF THE ABOVE

A GOITER IS THE RESULT OF 825
A. A MALFUNCTION OF THE ADRENAL GLANDS. 0825
B. A LACK OF IODINE IN THE DIET.
C. A LACK OF INSULIN IN THE BODY.
D. A MALFUNCTION OF THE THYROID.
*E. BOTH B AND D
F. BOTH A AND C

THE EXTREMELY OVERWEIGHT PERSON MAY HAVE A MALFUNCTION OF 0826
A. THE PITUITARY GLAND.
*B. THE THYROID GLAND.
C. THE PARATHYROID GLANDS.
D. THE ADRENAL GLANDS.
E. NONE OF THE ABOVE
F. ALL OF THE ABOVE

SOFT BONES IS CHARACTERISTIC OF 827
A. TOO LITTLE THYROXIN.
B. A LACK OF INSULIN.
*C. TOO MUCH PARATHORMONE.
D. A LACK OF ADRENALIN.
E. NONE OF THE ABOVE

WHEN A PERSON IS FRIGHTENED OR ANGRY, WHICH GLAND OR GLANDS COME 0828
INTO ACTION
A. THE PITUITARY GLAND
B. THE IDLANDS OF LANGERHANS
C. THE PARATHYROID GLANDS
*D. THE ADRENAL GLANDS
E. NONE OF THE ABOVE

WHICH GLAND, OR GLANDS BECAUSE OF ITS FUNCTION, IS REFERRED TO AS 0829
THE MASTER GLAND%S□O
A. THYROID GLAND
B. PARATHYROID GLANDS
C. ADRENAL GLANDS
*D. PITUITARY GLAND
E. NONE OF THE ABOVE

A MALFUNCTION OF THE THYROID GLAND MAY CAUSE WHICH OF THE 0830
FOLLOWING
A. SPEEDING UP OF THE CELL ACTIVITY
B. FASTER HEART BEAT
C. LOSS OR GAIN IN WEIGHT
D. SLOW DOWN IN BODY ACTIVITY
*E. ALL OF THE ABOVE
F. NONE OF THE ABOVE

DIABETES IS THE RESULT OF 831
A. LACK OF ADRENALIN PRODUCED.
B. TOO MUCH PARATHORMONE.
C. A MALFUNCTION OF THE THYROID GLAND.
D. NONE OF THE ABOVE
*F. LACK OF INSULIN PRODUCED.

****

THE STUDENT WILL GAIN A KNOWLEDGE OF THE STRUCTURE OF THE HUMAN EAR BY RECALLING OR RECOGNIZING THE STRUCTURES, AND LOCATION OF THE VARIOUS PARTS. %10 0155

THE HUMAN EAR IS DIVIDED INTO HOW MANY MAIN SECTIONS? 1818
A. 2
*B. 3
C. 4
D. 5
E. 6

THE AUDITORY MEATUS AND THE AURICLE MAKE UP WHAT IS KNOWN AS THE 1819
A. INNER EAR.
B. MIDDLE EAR.
*C. OUTER EAR.
D. NONE OF THE ABOVE.
E. ALL OF THE ABOVE.

THE MALLEUS, INCUS, AND STAPES ARE THREE BONES THAT MAKE UP THE 1820
A. INNER EAR.
*B. MIDDLE EAR.
C. OUTER EAR.
D. NONE OF THE ABOVE.
E. ALL OF THE ABOVE.

THE SEMICIRCULAR CANAL AND THE COCHLEA MAKE UP THE 1821
*A. INNER EAR.
B. MIDDLE EAR.
C. OUTER EAR.
D. NONE OF THE ABOVE.

A THIN FIBROUS MEMBRANE THAT CONDUCTS VIBRATIONS FROM THE AUDITORY MEATUS TO THE AUDITORY OSSICLES IS CALLED THE 1822
A. ROUND WINDOW.
B. TYMPANIC MEMBRANE.
C. EAR DRUM.
D. OVAL WINDOW.
*E. BOTH B AND C.

VIBRATIONS PASS THROUGH THE AUDITORY OSSICLES IN WHICH OF THE FOLLOWING ORDERS? 1823
A. INCUS, MALLEUS, STAPES
B. MALLEUS, STAPES, INCUS
*C. MALLEUS, INCUS, STAPES
D. STAPES, INCUS, MALLEUS
E. NONE OF THE ABOVE

THE THIN MEMBRANE BETWEEN THE MIDDLE EAR AND THE INNER EAR IS KNOWN AS THE 1824
A. EAR DRUM.
*B. OVAL WINDOW.
C. ROUND WINDOW.
D. TYMPANIC MEMBRANE.
E. NONE OF THE ABOVE

THE ORGAN OF THE CORTI IS LOCATED IN THE 1825
A. COCHLEA.

B. COCHLEA CANAL.
C. INNER EAR.
*D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

A LIQUID KNOWN AS PERILYMPH IS FOUND IN THE 1826
A. VESTIBULAR CANAL.
B. COCHLEAR CANAL.
C. TYMPANIC CANAL.
*D. BOTH A AND C
E. ALL OF THE ABOVE

A FLUID KNOWN AS ENDOLYMPH IS LOCATED IN THE 1827
A. VESTIBULAR CANAL.
*B. COCHLEAR CANAL.
C. TYMPANIC CANAL.
D. BOTH A AND C.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF MINERALOGY BY IDENTIFY- 0049
ING THE CHEMICAL COMPOSITION, PHYSICAL CHARACTERISTICS AND
EXAMPLES OF MINERALS. %6□

WHICH OF THE FOLLOWING IS A TRUE STATEMENT? 0808
A. MINERALS ARE MADE OF ROCK.
B. MINERALS AND ROCKS ARE THE SAME THINGS.
*C. ROCKS ARE MADE OF MINERALS.
D. ALL ARE FALSE STATEMENTS.

CHEMICAL ELEMENTS OR COMPOUNDS FOUND NATURALLY IN THE EARTH ARE 0809
A. IGNEOUS ROCKS.
B. METAMORPHIC ROCKS.
C. SEDIMENTARY ROCKS.
*D. MINERALS.
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A MINERAL? 0810
A. TALC
*B. MARBLE
C. PYRITE
D. COPPER
E. BOTH C AND D

WHICH OF THE FOLLOWING IS AN EXAMPLE OF A MINERAL? 0811
A. LAVA
B. SANDSTONE
C. GNEISS
D. FELDSPAR
*E. NONE OF THE ABOVE

THE *HARDNESS* TEST IS USED TO IDENTIFY 812
A. IGNEOUS ROCKS.
B. METAMORPHIC ROCKS.
*C. MINERALS.
D. ALL OF THE ABOVE

THE *STREAK* TEST IS USED TO IDENTIFY 813
A. IGNEOUS ROCKS.
B. SEDIMENTARY ROCKS.

C. METAMORPHIC ROCKS
*D. NONE OF THE ABOVE

****

@@ THE STUDENT WILL DIFFERENTIATE BETWEEN THE THREE CLASSES OF ROCKS BY SELECTING CHARACTERISTICS AND EXAMPLES OF EACH CLASS. %9□ 0050

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

ROCKS FORMED FROM MOLTEN MATERIALS ARE KNOWN AS 0799
A. METAMORPHIC.
*B. IGNEOUS.
C. SEDIMENTARY.
D. MINERALS.
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* AN IGNEOUS ROCK? 0800
A. LAVA
B. OBSIDIAN
C. BASALT
*D. SHALE
E. ALL ARE IGNEOUS ROCKS

WHICH OF THE FOLLOWING IS AN EXAMPLE OF AN IGNEOUS ROCK? 0801
A. CONGLOMERATE
B. PYRITE
*C. GRANITE
D. LIMESTONE
E. MARBLE

ROCKS FORMED FROM LAYERS OF SEDIMENT BEING PRESSED TOGETHER ARE CALLED 0802
A. METAMORPHIC.
B. IGNEOUS.
*C. SEDIMENTARY.
D. MINERALS.
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A SEDIMENTARY ROCK? 0803
*A. CALCITE
B. CONGLOMERATE
C. SANDSTONE
D. SHALE
E. SOFT COAL

WHICH OF THE FOLLOWING IS A SEDIMENTARY ROCK? 0804
A. MICA
*B. CHALK
C. OBSIDIAN
D. QUARTZITE
E. NONE OF THE ABOVE

ROCKS THAT WERE ONCE IGNEOUS OR SEDIMENTARY, BUT HAVE BEEN CHANGED BY HEAT AND PRESSURE ARE CALLED 0805
*A. METAMORPHIC.
B. IGNEOUS.
C. SEDIMENTARY.
D. MINERALS.
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A METAMORPHIC ROCK0 0806

A. MARBLE
B. HARD COAL
C. GNEISS
*D. CORUNDUM
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS A METAMORPHIC ROCK0 0807

A. CORUNDUM
*B. SLATE
C. PUMICE
D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

****

OCEANOGRAPHY

THE STUDENT CAN EVALUATE STATEMENTS ON OCEANOGRAPHY BY APPLYING KNOWLEDGE OF EROSION TO CHOOSE LOGICAL EXPLANATIONS OF A GIVEN PHENOMENA. %1¤ 0159

READ THE FOLLOWING STATEMENT. THEN CHOOSE THE LOGICAL EXPLANATION FOR THIS OCCURENCE FROM THE FOLLOWING LIST. 1840

THE OCEAN FLOOR IS VERY SIMILAR TO THE SURFACE OF THE LAND, ONLY THE OCEAN FLOOR IS COVERED WITH WATER. CONTRARY TO THIS SIMILARITY, EROSION HAS ALTERED LAND FEATURES TO A GREATER DEGREE THAN THE OCEAN FLOOR. THE REASONS FOR THIS BEING JUSTIFIED ARE

A. THE EROSION FORCES OF WIND AND SUN ARE WASHED AWAY ON THE FLOOR OF THE OCEAN LEVELING ITS SURFACE. THIS MAKES THE EFFECTS OF EROSION UNNOTICEABLE.
B. THE OCEAN FLOOR IS FREE FROM ANY FORCES OF EROSION, AND, THEREFORE, HAS A NATURAL PROTECTION AGAINST ALTERATION OF ITS SURFACE FEATURES.
*C. THE EROSION FORCES OF WIND, SUN, AND FALLING WATER ARE ONLY CONNECTED WITH LAND EROSION, WHEREAS, THE SEA HAS TO ONLY CONTEND WITH WATER EROSION.

****

THE STUDENT CAN EVALUATE STATEMENTS ON SEAWEED AND ITS RELATIONSHIP TO THE MAINTENANCE OF LIFE BY CHOOSING LOGICAL EXPLANATIONS. %1¤ 0160

CONSIDER THE FOLLOWING STATEMENT. 1841
THE FOOD SUPPLY HAS BEEN DRASTICALLY CUT. SCIENTISTS HAVE DECIDED THAT THE MOST CONVENIENT WAY TO AVOID STARVATION FOR THOUSANDS IS TO GATHER SEAWEED FROM THE OCEAN. THE FOOD SOURCES WERE FOUND TO ADEQUATELY SUPPLEMENT THE DIET.

FROM THE FOLLOWING CHOICES, SELECT THE JUSTIFICATION FOR THIS PROCEDURE.

*A. WE MAY USE SEAWEED FOR OUR FOOD SUPPLY BECAUSE IT IS RICH IN MINERALS AND IN SOME VITAMINS.
B. WE MAY USE SEAWEED FOR OUR FOOD SUPPLY BECAUSE SEAWEED IS CHEAPER TO ACCUMULATE THAN BEEF OR VEGETABLES.

C. THE EARTH'S POPULATION IS INCREASING FASTER THAN THE FOOD SUPPLY.

****

GIVEN INFORMATION ON SOLUTIONS, THE STUDENT CAN ANALYZE THE CONTENTS OF OCEAN WATER BY CHOOSING REASONS FOR THE MINERALS FOUND IN THE WATER. %2¤ 0161

SEA WATER SOMETIMES TASTES SALTY AND BITTER. WE KNOW MINERALS ARE IN THAT WATER. THE REASON THESE MINERALS ARE THERE, BUT *NOT* SEEN IS 1842

*A. RAIN WATER FLOWS OVER THE SOIL DISSOLVING SOME OF THE MINERALS AND CARRYING THEM %THIS WATER¤ TO THE SEA.
B. THE MINERALS ORIGINATE IN CLOUDS, AND WHEN IT RAINS THESE MINERALS RAIN WITH SEA WATER.
C. THE MINERALS ORIGINATE FROM MARINE LIFE, BUT CHEMICAL REACTIONS IN THE WATER DISSOLVE THESE MINERALS.

IF ALL THE WATER IN THE OCEAN WERE TO BE EVAPORATED, THE MINERAL CONTENT 1843

A. WOULD EVAPORATE WITH THE WATER.
B. WOULD REMAIN IN VERY SMALL QUANTITIES.
C. WOULD REAMIN IN VARY LARGE QUANTITIES.

****

LAWS OF MOTION

THE STUDENT WILL APPLY THE PRINCIPLES INVOLVED IN NEWTON'S THREE LAWS OF FORCE AND MOTION BY IDENTIFYING EXAMPLES WHICH SUPPORT THE LAWS IN GIVEN EVERYDAY SITUATIONS. %12¤ 0051

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

AS A BOY ROLLING DOWN A HILL HITS A BUMP AND TURNS 45 DEGREES TO THE LEFT. THIS OBSERVABLE SITUATION HAPPENS BECAUSE 0657

A. THE HILL IS STEEP.
B. THE HILL IS BUMPY.
C. THE WAGON WHEELS HAVE BALL BEARINGS.
*D. THE BUMP EXERTS A FORCE FROM THE SIDE ON THE WAGON.
E. NONE OF THESE

WHICH OF THE FOLLOWING IS *NOT* AN EXAMPLE OF NEWTON'S THIRD LAW OF MOTION 0658

A. WATER DRIVES A ROTARY LAWN SPRINKLER.
B. TWO CARS COLLIDE.
*C. AS YOU STEP FROM A BOAT IT MOVES AWAY FROM YOU.
D. A ROCKET LIFTS OFF.
E. NONE OF THE ABOVE

A BOY AND A DOG RIDING IN A MOVING AUTOMOBILE FALL OFF THE SEAT WHEN THE CAR IS SUDDENLY BRAKED. BECAUSE THE BOY MOVES TWICE AS FAST AS THE DOG, IT CAN BE DEDUCED THAT THE DOG 0659

*A. IS MORE AGILE THAN THE BOY.
B. WAS WEARING A SEAT BELT.
C. HAS HAD EXPERIENCE FALLING OFF THE SEAT.

*D. WEIGHS LESS THAN THE BOY.
E. NONE OF THE ABOVE

THE TENDENCY FOR AN OBJECT AT REST TO REMAIN AT REST IS A STATEMENT OF 0782
*A. NEWTON,S 1ST LAW OF MOTION.
B. NEWTON,S 2ND LAW OF MOTION.
C. NEWTON,S 3RD LAW OF MOTION.
D. NONE OF THE ABOVE

WHEN A MAGICIAN PULLS A TABLE CLOTH FROM UNDER A TABLE FULL OF DISHES AND LEAVES THE DISHES ALL IN PLACE, HE HAS ACTUALLY DEMONSTRATED 0786
*A. NEWTON,S 1ST LAW OF MOTION.
B. NEWTON,S 2ND LAW OF MOTION.
C. NEWTON,S 3RD LAW OF MOTION.
D. NONE OF THE ABOVE

IF A BASEBALL PLAYER HITS A BALL VERY HARD, IT WILL TRAVEL A GREAT DISTANCE. IF HE ONLY HITS THE BALL LIGHTLY, IT WILL NOT TRAVEL AS FAR. THESE RESULTS CAN BE EXPLAINED BY 0787
A. NEWTON,S 1ST LAW OF MOTION.
*B. NEWTON,S 2ND LAW OF MOTION.
C. NEWTON,S 3RD LAW OF MOTION.
D. NONE OF THE ABOVE

NEWTON,S 3RD LAW OF MOTION EXPLAINS WHICH OF THE FOLLOWING OCCURRENCES. 0788
A. FALLING FORWARD WHEN THE CAR COMES TO A SUDDEN STOP
*B. THE LIFT OFF AND ACCELERATION OF A ROCKET
C. GOING SLOWLY ON A BICYCLE WHILE PEDDLING GENTLY
D. BEING PUSHED TO THE SIDE OF A CAR WHEN IT GOES AROUND A CURVE

A BALLOON IS BLOWN UP AND ATTACHED TO A STRING BY TWO RINGS. IF THE AIR IS ALLOWED TO ESCAPE FROM THE BALLOON IN ONE DIRECTION IN WHAT DIRECTION, IF ANY, WILL THE BALLOON MOVE0 0789
A. IT WILL MOVE IN THE SAME DIRECTION.
B. THE BALLOON WILL NOT MOVE.
*C. IT WILL MOVE TOWARD THE OPPOSITE DIRECTION.
D. NONE OF THE ABOVE.

WHAT LAW OF MOTION IS REPRESENTED BY THE ABOVE DEMONSTRATIONO 0790
A. THE MASS IS DIRECTLY PROPORTIONAL TO THE ACCELERATION OF THE MASS.
B. TENDENCY FOR AN OBJECT AT REST TO STAY AT REST.
*C. FOR EVERY ACTION THERE,S AN EQUAL AND OPPOSITE REACTION.
D. NONE OF THE ABOVE

****

THE STUDENT WILL DISTINGUISH BETWEEN VARIOUS OBJECTS OF THE UNIVERSE %PLANET, STARS, COMETS, CONSTELLATIONS□ BY MATCHING THE CORRECT OBJECT TO A GIVEN DESCRIPTION. %8□ 0052

ASSUME YOU ARE TRAVELING THROUGH SPACE. SELECT THE RESPONSE THAT DESCRIBES THE OBJECTS YOU PASS OR LAND ON. 0029

YOU ARE NEARING A CELESTIAL BODY THAT HAS 12 SMALLER BODIES REVOLVING AROUND. AS YOU APPROACH, YOU NOTICE A LARGE RED SPOT 0791

ON ITS SURFACE. YOU ARE APPROACHING
A. A GROUP OF COMETS.
*B. THE PLANET JUPITER.
C. THE STAR, ALPHA CENTARI.
D. THE PLANET VENUS.
E. A DISTANT SUN.

YOU APPROACH ANOTHER HEAVENLY BODY ON YOUR JOURNEY. THERE IS A VARIATION IN THE SURFACE COLOR WITH LARGE REDDISH AREAS AND BANDS OF GREEN. YOU LAND AND EXPLORE NORTHWARD FROM YOUR LANDING POINT. YOU COME UPON WHAT SEEMS TO BE A GLACIER AND THEN YOU REALIZE THAT YOU ARE PROBABLY ON 0792
A. THE PLANET MERCURY.
B. THE SUN.
C. AN ASTEROID.
*D. THE PLANET MARS.
E. THE PLANET NEPTUNE.

YOU HAVE JUST PASSED BETWEEN TWO OBJECTS THAT APPEAR QUITE SIMILAR IN SIZE AND COLOR. THEY BOTH ARE GREEN BUT ONE SEEMS TO ROTATE AT RIGHT ANGLES TO THE OTHER. WHAT HAVE YOU PASSED BETWEENO 0793
A. TWO COMETS TRAVELING OPPOSITE EACH OTHER
B. TWO ASTEROIDS IN DIFFERENT ORBITS
*C. THE PLANETS NEPTUNE AND URANUS
D. TWO DEAD STARS
F. NONE OF THE ABOVE

YOU COME NEAR A BALL OF EXPLODING GASES. YOU NOTICE THERE IS A TREMENDOUS AMOUNT OF LIGHT GIVEN OFF FROM THE OBJECT. YOU HAVE JUST SEEN 0794
*A. A STAR.
B. A PLANETOID.
C. A PLANET.
D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

ACCORDING TO THE CHARTS IN YOUR SPACESHIP, YOU ARE ON A COURSE FROM RIGEL TO BETELGEUSE. WHERE IS YOUR COURSE TAKING YOUO 0795
A. FROM ONE GALAXY TO ANOTHER
B. BETWEEN THE MOONS OF MARS
C. ACROSS THE SURFACE OF OUR MOON
*D. THROUGH THE CONSTELLATION ORION
E. NONE OF THE ABOVE

YOU ARE WITHIN A LIGHT YEAR OF ALPHA CENTARI. YOU ARE EXCITED BECAUSE YOU KNOW THAT ALPHA CENTARI IS 0796
A. A. THE SMALLEST PLANET.
B. THE PLANET FARTHEST FROM THE SUN.
C. THE OLDEST COMET KNOWN.
D. THE LARGEST ASTEROID KNOWN.
*E. NONE OF THE ABOVE

AS YOU APPROACH ANOTHER OBJECT YOU MUST FIRST PASS THROUGH A VERY DENSE CLOUD COVER. THE CLOUDS REFLECT LIGHT SO MUCH THAT THE OBJECT APPEARS TO BE THE BRIGHTEST IN THE SKY. YOU ARE ABOUT TO LAND ON 0797
A. THE SUN.
B. HALLEY'S COMET.
*C. VENUS.
D. THE STAR, BETELGUESE.

E. NONE OF THE ABOVE

YOU HAVE JUST LANDED ON ANOTHER HEAVENLY BODY THAT HAS LARGE AMOUNTS OF WATER PRESENT AND THERE ARE INDICATIONS OF BOTH PLANT AND ANIMAL LIFE. YOU HAVE PROBABLY LANDED ON 0798
A. PLUTO.
B. VENUS.
C. MARS.
D. SATURN.
*E. NONE OF THESE

****

SPACE TRAVEL

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF THE TWO TYPES OF ROCKET ENGINES AND THEIR PARTS BY SELECTING CHARACTERISTIC DIFFERENCES IN ROCKET PROPELLANTS. %5□ 0053

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A PROPELLANT CONSISTS OF AN OXIDIZER AND A FUEL. THE OXIDIZER IS NECESSARY BECAUSE 0781
A. A FUEL NEEDS AN OXIDIZER TO BURN.
B. THERE IS NO OXYGEN IN SPACE.
C. IT'S USED FOR COOLING PURPOSES.
*D. ONLY A AND B ABOVE
F. ALL OF THE ABOVE

THE EXHAUST NOZZLE GIVES ESCAPING GAS MOLECULES MAXIMUM VELOCITY. THIS IS A RESULT OF 078?
A. THE SIZE OF THE NOZZLE.
B. THE LENGTH OF THE NOZZLE.
*C. THE SHAPE OF THE NOZZLE.
D. THE WIDTH OF THE NOZZLE.
E. NONE OF THE ABOVE

THRUST IN A ROCKET DEPENDS ON 783
A. THE AMOUNT OF SOLID PROPELLANT PRESENT.
B. THE LENGTH OF FIRING TIME.
*C. THE BURNING SURFACE EXPOSED.
D. NONE OF THE ABOVE

WHICH OF THE FOLLOWINGS IS *NOT* CHARACTERISTIC OF A LIQUID-PROPELLANT ROCKET0 0784
A. GREAT AMOUNT OF THRUST PER POUND OF FUEL
B. MUCH HEAT GENERATED
C. EASY CONTROL OF FLIGHT
*D. SIMPLIFIED ROCKET DESIGN

****

WEATHER

THE STUDENT WILL APPLY HIS KNOWLEDGE OF CLOUD COMPOSITION BY IDENTIFYING THE DIFFERENT CLOUD FORMATIONS FROM A DESCRIPTION. %10□ 0055

DIRECTIONS--CHOOSE THE LETTER BY THE CORRECT DESCRIPTION. 0065

A. HIGH ALTITUDE, ICE CRYSTAL, WHITISH VEIL
B. LARGE MIDDLE ALTITUDE, WATER CLOUD, DARK & RAGGED.
C. BILLOWED TOPS, LOW ALTITUDE
D. THIN, WISPY, OFTEN IN STREAKS
E. DULL DRAB GREY OR BLUISH SHEET, MIDDLE ALTITUDE
F. LOW ALTITUDE, GREY LAYER
G. SMALL, BILLOWED, HIGH ALTITUDE CLOUD
H. MIXED ALTITUDE, DENSE, TALL, BILLOWED, WHITE TO INKY BLACK
I. LOW ALTITUDE, ROLL SHAPED ELEMENTS IN ORDERLY GROUPS
J. ROUNDED MASSES OR ROLLS, MIDDLE ALTITUDE

CIRRUS	*D	1724
CIRROCUMULUS	*G	1725
CIRROSTRATUS	*A	1726
ALTOCUMULUS	*J	1727
ALTOSTRATUS	*E	1728
NIMBOSTRATUS	*B	1729
STRATOCUMULUS	*I	1730
STRATUS	*F	1731
CUMULUS	*C	1732
CUMULONIMBUS	*H	1733

****

THE STUDENT WILL ANALYZE CERTAIN WEATHER CONDITIONS AND CHARACTERISTICS BY SELECTING FROM THEM WHAT CONDITIONS WILL FOLLOW. %12¤ 0056

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

IN WHAT DIRECTION WOULD YOU PREDICT THE CENTER OF THE LOW PRESSURE MOVE WITHIN THE NEXT 24 HOURSO 0722

*A. TO THE S.W.
B. TO THE N.W.
C. TO THE W.
D. TO THE N.

AT POSITION A THE BAROMETRIC PRESSURE IS 30.1. WHAT WOULD YOU PREDICT WILL HAPPEN TO IT 24 HOURS LATERO 0723

A. NO CHANGE IN PRESSURE.
B. PRESSURE WILL RISE.
*C. PRESSURE WILL DROP.
D. NOT ENOUGH INFORMATION TO PREDICT

AT POINT A WHAT CHANGE, IF ANY, WOULD YOU EXPECT IN THE WEATHER CONDITIONS WITHIN THE NEXT 24 HOURSO 0724

A. COOLER TEMPERATURES
B. STRONG POSSIBILITY OF RAIN
C. RISING TEMPERATURES

D. NO CHANGE IN WEATHER CONDITIONS
*E. BOTH A AND B
F. NONE OF THE ABOVE

AT POINT A THE WIND DIRECTION IS NW. IN THE NEXT 24-48 HOURS, WHAT, IF ANYTHING, WOULD YOU EXPECT TO HAPPEN TO THE WIND DIRECTION? 0725
*A. CHANGE IN DIRECTION AFTER FRONT PASSES
B. NO CHANGE IN DIRECTION
C. CHANGE IN DIRECTION BEFORE FRONT PASSES
D. NOT ENOUGH INFORMATION TO PREDICT

WHAT WILL THE TEMPERATURE BE AT POINT B WITHIN THE NEXT 24 HOURS? 0726
A. 75 DEGREES
B. 80 DEGREES
C. 30 DEGREES
*D. NOT ENOUGH INFORMATION GIVEN TO PREDICT

****

USING THE MAP SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0026

DURING THE NEXT 24 HOURS THERE WILL PROBABLY BE 0757
A. A LOW PRESSURE AREA OVER THE GREAT LAKES.
B. A HIGH PRESSURE AREA OVER THE GULF OF MEXICO.
C. RAIN THROUGHOUT MOST OF AREA B.
*D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

SEVERE WEATHER COULD OCCUR DURING THE NEXT 24 HOURS IN AREA 0758
A. A
*B. B
C. C
D. ALL OF THE ABOVE

SEVERE WEATHER COULD BE THE RESULT OF 759
*A. THE MEETING OF A WARM AND A COLD FRONT.
B. THE MOVEMENT OF THE HIGH PRESSURE AREA.
C. BOTH AIR MASSES BECOMING STATIONARY.
D. THE NORTHWARD MOVEMENT OF A LARGE COLD FRONT.
E. NONE OF THE ABOVE

DURING THE NEXT 24 HOURS THERE WILL PROBABLY BE RAIN IN 0760
A. NEW YORK.
B. CHICAGO.
C. MIAMI.
D. ST. LOUIS.
*E. BOTH B AND D

DURING THE NEXT 48 HOURS THERE WILL PROBABLY BE RAIN IN 0761
A. NEW YORK.
B. TAMPA.
C. PITTSBURG.
D. DENVER.
*F. BOTH A AND C

****

THE STUDENT WILL ANALYZE A DIAGRAM OF PLANETARY WINDS BY INDICATING THE TYPES OF PRESSURE AREAS THAT ARE CREATED AND THEIR CHARACTERISTICS. %4□ 0057

DIRECTIONS-- ANSWER THE FOLLOWING QUESTIONS BY REFERRING TO THE DIAGRAM. NOTE. USE ANY STANDARDIZED DIAGRAM OF PLANETARY WINDS. 0037

AS INDICATED BY THE DIAGRAM, THE AIR IS RISING AT THE EQUATOR. WHAT KIND OF PRESSURE SYSTEM WOULD BE FOUND HERE0 0995
A. VARIABLE
B. NONE
*C. LOW
D. HIGH

THE AIR RISES AT THE EQUATOR BECAUSE 996
A. IT IS DISPLACED BY THE AIR MASSES FLOWING FROM THE HORSE LATITUTES.
B. THE AIR MAKES UP A HIGH PRESSURE SYSTEM AND THEREFORE RISES.
*C. THE AIR IS WARMEST HERE AND THEREFORE RISES.
D. THE SUN,S GRAVITATIONAL PULL IS GREATEST AT THE EQUATOR AND CAUSES THE ATMOSPHERE TO RISE.

THE PRESSURE SYSTEM AT THE NORTH POLE WOULD BE 0997
*A. HIGH.
B. LOW.
C. NONE.
D. VARIABLE.

BETWEEN B AND C THE REGION IS REFERRED TO AS *PREVAILING WESTERLIES*. YOU WILL NOTICE FROM THE DIAGRAM THAT THE AIR IS RISING IN THIS REGION. THIS IS CAUSED BY-- 0998
*A. THE COOLER AIR FROM THE POLES REGION PUSHES THE WARMER AIR UP.
B. A HIGH PRESSURE SYSTEM PRESENT IN THIS REGION.
C. A LOW PRESSURE SYSTEM PRESENT IN THIS REGION.
D. THE WIND COMES FROM THE WEST CAUSING IT TO RISE.

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF THE GREENHOUSE EFFECT BY IDENTIFYING CONDITIONS OR SITUATIONS WHICH CHARACTERIZE THIS EFFECT. %6□ 0058

WHICH OF THE FOLLOWING STATEMENTS IS TRUE IN TERMS OF THE GREENHOUSE EFFECT. 0999
A. THE EARTH,S SURFACE IS WARMED BY HEAT RADIATING FROM THE SUN.
B. THE ATMOSPHERE BECOMES WARMED AS THE SUNLIGHT PASSES THROUGH IT WHICH IN TURN WARMS THE SURFACE.
*C. THE SUNLIGHT CHANGES TO HEAT WHEN IT HITS THE SURFACE WHICH IN TURN WARMS THE ATMOSPHERE.
D. THE SUNLIGHT CHANGES TO HEAT AS IT PASSES THROUGH THE ATMOSPHERE BUT IT WARMS THE SURFACE FIRST WHICH IN TURN WARMS THE ATMOSPHERE.

WHICH OF THE FOLLOWING IS A PRINCIPLE WHICH IS TRUE IN TERMS OF THE GREENHOUSE EFFECT. 1000
*A. LIGHT RADIATION PASSES THROUGH THE ATMOSPHERE BUT HEAT RADIATION DOES NOT.

B. SUNLIGHT IS REFLECTED BACK TO SPACE BUT HEAT RADIATION PASSES THROUGH THE CLOUDS.
C. HEAT PASSES THROUGH BUT THE SUNLIGHT IS KEPT IN BY THE EARTH,S ATMOSPHERE.
C. THE GREENHOUSE EFFECT OCCURS IN THE ABSENCE OF AN ATMOSPHERE AS WELL AS WITH AN ATMOSPHERE.

IN WHICH OF THE FOLLOWING INSTANCES COULD THERE *NOT* BE A GREEN-HOUSE EFFECT0 1001
*A. ON THE MOON
B. IN A PARKED CAR WITH THE WINDOWS ROLLED UP
C. IN A GREENHOUSE
D. AT AN INDOOR POOL ENCLOSED BY GLASS
F. IN THE BACK YARD

****

THE STUDENT WILL SHOW COMPREHENSION OF THE LAWS OF NATURE BY IDENTIFYING DESCRIPTIVE FACTS AND CHARACTERISTICS ABOUT THE LAWS OF NATURE. %2□ 0059

A LAW OF NATURE IS 1002
A. A STATEMENT MADE BY SOME DISTINGUISHED SCIENTIST.
*B. A GENERALIZATION BASED ON EXPERIMENTS.
C. AN EXPERIMENTAL CONCLUSION.
D. THE RESULTS OF ONE EXPERIMENT.

A LAW OF NATURE CAN 1003
*A. BE CHANGED TO ACCOUNT FOR NEW EVIDENCE.
B. ONLY BE WRITTEN BY NATURE.
C. NEVER BE REPEALED.
C. NEVER HAVE LIMITS PUT ON IT.

****

MATTER

THE STUDENT WILL DEMONSTRATE HIS COMPREHENSION OF THE PROPERTIES OF MATTER BY SELECTING FROM A LIST OF ALTERNATIVES THAT PROPERTY WHICH WILL BE *MOST* OR *LEAST* USEFUL IN IDENTIFYING A GIVEN SAMPLE OF MATTER. %4□ 0179

IF A STUDENT WERE GIVEN AN UNKNOWN LIQUID TO IDENTIFY THROUGH ITS PROPERTIES, WHICH OF THE FOLLOWING LIST OF ALTERNATIVE PROPERTIES WOULD BE THE *LEAST* HELPFUL0 1945
A. THE DENSITY OF THE LIQUID
*B. THE VOLUME OF THE SAMPLE
C. THE BOILING POINT OF THE LIQUID
D. THE FREEZING POINT OF THE LIQUID
F. THE SOLUBILITY OF CERTAIN COMMON SOLIDS IN THE LIQUID

IF YOU WERE GIVEN A SAMPLE OF AN UNKNOWN GAS AND IF YOU HAD THE NECESSARY EQUIPMENT TO DO ANY OF THE PROCEDURES LISTED BELOW IN ORDER TO DETERMINE THE PROPERTIES, WHICH PROCEDURE WOULD YOU *NOT* DO BECAUSE THE PROPERTY THAT IT WOULD DETERMINE WOULD BE THE *LEAST* HELPFUL0 1946
A. FIND THE DENSITY OF THE GAS
B. FIND THE FREEZING POINT OF THE SAMPLE AFTER IT HAS BEEN LIQUIFIED

C. FIND THE FLAMMABILITY OF THE GAS
*D. FIND THE THERMAL EXPANSION OF THE GAS
E. BUBBLE THE GAS THROUGH LIME WATER

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE MAKEUP OF AN ATOM BY IDENTIFYING ITS COMPONENT PARTS AND ITS PHYSICAL AND CHEMICAL CHARACTERISTICS. %7¤ 0060

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

BOTH ELECTRONS AND PROTONS HAVE ELECTRICAL CHARGES. THESE CHARGES ARE 0691
*A. OF EQUAL STRENGTH AND OPPOSITE.
B. OF EQUAL STRENGTH AND THE SAME.
C. OF UNEQUAL STRENGTH AND OPPOSITE.
D. OF UNEQUAL STRENGTH AND THE SAME.

BECAUSE A NEUTRON IS MADE UP OF AN ELECTRON AND A PROTON, IT HAS 0692
A. A NEGATIVE NET CHARGE.
B. A POSITIVE NET CHARGE.
*C. NO NET CHARGE.
D. A NEUTRAL CHARGE.
E. TWICE AS MUCH ELECTRICAL STRENGTH AS AN ELECTRON OR PROTON.

TWO OF THE 3 BASIC PARTICLES IN AN ATOM HAVE SIMILAR MASS WHICH IS APPROXIMATELY 1800 TIMES GREATER THAN THAT OF THE 3RD PARTICLE. THESE 2 PARTICLES ARE 0694
A. ELECTRON AND NEUTRON.
B. ELECTRON AND PROTON.
*C. PROTON AND NEUTRON.

FROM THE RELATIVE WEIGHTS AND ACTIVITIES OF THE 3 BASIC ATOM PARTICLES, ONE CAN CONCLUDE THAT THE MASS OF AN ATOM IS CONCENTRATED IN THE 0695
A. ELECTRON.
B. PROTON.
*C. NEULEUS.
D. NEUTRON.

THE MASS OF HYDROGEN IS 1 BECAUSE IT HAS ONE PROTON IN ITS NUCLEUS. IF AN ATOM HAS 2 PROTONS AND 2 NEUTRONS IN ITS NUCLEUS, HOW IS ITS MASS RELATED TO THAT OF HYDROGENO 0696
A. 2 TIMES GREATER
*B. 4 TIMES GREATER
C. THE SAME AS
D. CAN,T TELL BY INFORMATION GIVEN

THE NEUTRON, THOUGH SIMILAR IN WEIGHT TO THE PROTON, IS SLIGHTLY HEAVIER THAN THE PROTON. THIS IS BECAUSE IT IS MADE UP OF 0697
A. A POSITIVE AND A NEGATIVE ELECTRICAL CHARGE.
B. A NEUTRAL PARTICLE.
*C. AN ELECTRON AND PROTON.

****

THE STUDENT WILL SHOW UNDERSTANDING OF THE LOCATION OF THE 0061

COMPONENT PARTS OF THE ATOM BY SELECTING THE DIAGRAM THAT IDENTIFIES THE CORRECT LOCATION OF THE PROTONS, ELECTRONS AND NEUTRONS. %1¤

SELECT THE DIAGRAM THAT CORRECTLY ANSWERS THE STATEMENT. 002C
MAKE FOUR DIAGRAMS WITH B HAVING PROTON AND NEUTRON IN NUCLEUS AND ELECTRON OUTSIDE. VARY THE OTHER DIAGRAMS.

THE BASIC STRUCTURE OF THE ATOM CAN BE REPRESENTED BY WHICH ONE OF THE FOLLOWING DIAGRAMS0 %P EQUALS PROTON, N EQUALS NEUTRON E EQUALS ELECTRON¤ 0667
A.
*B.
C.
D.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE TERMS ATOMIC WEIGHT AND ATOMIC NUMBER BY MATCHING EACH TERM WITH ITS CORRECT DEFINITION. % ¤ 0062

THE MASS OF AN ATOM OF ANY ELEMENT IN RELATION TO A MASS OF THE ATOM OF CARBON-12 TAKEN AS 12 UNITS IS CALLED THE 1741
*A. ATOMIC WEIGHT
B. ATOMIC NUMBER

THE NUMBER OF PROTONS IN AN ATOMIC NUCLEUS, OF THE POSITIVE CHARGE OF THE NUCLEUS IS CALLED THE 1742
A. ATOMIC WEIGHT
*B. ATOMIC NUMBER

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF ATOMIC WEIGHT AND ATOMIC NUMBER BY SELECTING THE DIAGRAM FOR GIVEN ATOMIC WEIGHT AND NUMBERS OR THE CORRECT ATOMIC WEIGHT AND NUMBER FOR A GIVEN DIAGRAM. %4¤ 0063

SELECT THE DIAGRAM THAT CORRECTLY ANSWERS THE STATEMENT. 0020
MAKE FOUR DIAGRAMS WITH C THE CORRECT ONE HAVING 6 PROTONS AND 5 NEUTRONS IN NUCLEUS AND 6 ELECTRONS OUTSIDE THE NUCLEUS. VARY THE OTHER DIAGRAMS.

AN ATOM HAS 6 ELECTRONS, 5 NEUTRONS, AND 6 PROTONS. THIS STRUCTURE CAN BE REPRESENTED BY WHICH OF THE FOLLOWING DIAGRAMS0 %N EQUALS NEUTRON, P EQUALS PROTON, O EQUALS ELECTRON¤ 0668
A.
B.
*C.
D.

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

AN ATOM HAS AN AT. NUMBER OF 10 AND AN AT. WT. OF 24. IT HAS IN ITS STRUCTURE 0669
*A. 10 ELECTRONS AND 10 PROTONS AND 14 NEUTRONS.
B. 10 PROTONS AND 14 NEUTRONS AND 14 ELECTRONS.
C. 24 PROTONS AND 10 NEUTRONS AND 24 ELECTRONS.

D. 10 PROTONS AND 14 NEWTRONS.

SELECT THE DIAGRAM THAT CORRECTLY ANSWERS THE STATEMENT. 0020
CONSTRUCT FOUR DIAGRAMS WITH *C* REPRESENTING THE CORRECT ONE.
IT SHOULD INCLUDE 3 PROTONS AND 2 NEUTRONS IN THE NUCLEUS AND
3 ELECTRONS. VARY THE OTHER CHOICES.

SELECT THE DIAGRAM BELOW THAT REPRESENTS AN ATOM WITH AN ATOMIC 0671
NUMBER OF 3 AND AN ATOMIC WEIGHT OF 5.
A.
B.
*C.
D.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE ENERGY LEVELS OF 0064
AN ATOM BY SELECTING THE MAXIMUM NUMBER OF ELECTRONS THAT APPEAR
IN THE K,L,M,N,O ENERGY LEVELS OF AN ATOM. %5¤

USING THE PERIODIC TABLE, SELECT THE MAXIMUM NUMBER OF ELECTRONS 0022
THAT THE ENERGY LEVEL CAN HOLD.

K ENERGY LEVEL 674
A. 1
*B. 2
C. 3
D. 4

L ENERGY LEVEL 675
A. 2
B. 5
*C. 8
D. 18

M ENERGY LEVEL 676
A. 2
B. 16
*C. 18
D. 8

N ENERGY LEVEL 677
*A. 32
B. 18
C. 24
D. 16

O ENERGY LEVEL 678
A. 8
*B. 32
C. 18
D. 24

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE PERIODIC TABLE OF 0065
ELEMENTS BY IDENTIFYING ATOMIC WEIGHT, ATOMIC NUMBER, ELECTRONIC
STRUCTURE AND RELATIVE SIZE OF GIVEN ATOMS. %18¤

SELECT THE CORRECT ANSWER 21

WHAT IS THE ATOMIC NUMBER OF SODIUM0 563
A. 23
B. 9
C. 1
D. 3
*E. NONE OF THE ABOVE

THE ELEMENT MAGNESIUM BELONGS TO WHICH PERIOD0 0564
A. 1
B. 2
*C. 3
D. 4
E. NONE OF THE ABOVE

WHAT IS THE CHEMICAL SYMBOL FOR THE ELEMENT POTASSIUM0 0565
*A. K
B. P
C. S
D. AS
E. NONE OF THE ABOVE

WHICH ELEMENT DOES NOT BELONG TO THE HALOGEN FAMILY %GROUP□0 0566
*A. SODIUM
B. CHLORENE
C. FLUORINE
D. BROMINE
E. ALL OF THE ABOVE

HOW MANY SHELLS DOES AN ATOM OF ALUMINUM HAVE0 0567
A. 1
B. 2
*C. 3
D. 4
E. NONE OF THE ABOVE

HOW MANY ELECTRONS DOES AN ATOM OF SULFUR HAVE IN ITS OUTER SHELL0 0568
A. 2
B. 4
*C. 6
D. 8
E. NONE OF THE ABOVE

HOW MANY ELECTRONS DOES AN ATOM OF CHLORINE HAVE IN ITS *L* SHELL0 0569
A. 2
B. 4
C. 6
*D. 8
E. NONE OF THE ABOVE

****

USING THE PERIODIC CHART OF THE ELEMENTS SELECT THE CORRECT CHOICE TO THE FOLLOWING ITEM. 0018

SODIUM AND POTASSIUM ARE CONSIDERED TO BE IN THE SAME FAMILY OF ELEMENTS BECAUSE THEY HAVE THE SAME NUMBER OF 0711

A. ELECTRONS IN EACH ENERGY LEVEL.
B. ENERGY LEVELS.
*C. ELECTRONS IN THE OUTER ENERGY LEVEL.
D. NONE OF THE ABOVE

POTASSIUM AND CALCIUM ARE IN THE SAME *PERIOD* OF ELEMENTS BECAUSE THEY HAVE THE SAME NUMBER OF 0712
A. ELECTRONS IN EACH ENERGY LEVEL.
B. ENERGY LEVELS.
*C. ELECTRONS IN THE OUTER ENERGY LEVEL.
D. NONE OF THE ABOVE

WHAT CAN YOU INFER ABOUT THE PROPERTIES OF SULFUR FROM ITS POSITION IN THE PERIODIC TABLE? 0713
A. DIFFERENT FROM OXYGEN
B. SIMILAR TO OXYGEN
C. DIFFERENT FROM PHOSPHORUS AND CHLORINE
D. NONE OF THE ABOVE
*E. ALL OF THE ABOVE

A PERIODIC ARRANGEMENT OF ELEMENTS ON THE PERIODIC TABLE TELLS US THAT THE PROPERTIES OF ELEMENTS 0714
A. DEPEND ON THEIR STRUCTURE.
*B. REPEAT THEMSELVES.
C. ARE RELATED TO THE ATOMIC NUMBER.
D. DEPEND ON THE NUMBER OF ELECTRONS.

****

THE STUDENT WILL DIFFERENTIATE BETWEEN GROUPS OF ELEMENTS WITHIN THE PERIODIC TABLE OF ELEMENTS BY IDENTIFYING SIMILAR CHEMICAL AND PHYSICAL CHARACTERISTICS %PERIODICITY¤ OF GROUPS OF ELEMENTS. %1¤ 0066

USING THE PERIODIC CHART OF THE ELEMENTS SELECT THE CORRECT CHOICE TO THE FOLLOWING ITEM. 0018

DETERMINE WHICH OF THE FOLLOWING STATEMENTS IS TRUE. 0699
A. ARGON IS LARGER THAN CALCIUM.
B. CARBON IS SMALLER THAN HELIUM.
*C. ALUMINUM AND PHOSPHORUS ARE APPROXIMATELY THE SAME SIZE.
D. COPPER IS LARGER THAN IRON.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE STRUCTURE OF AN ELEMENT AND COMPOUND BY IDENTIFYING PROPERTIES POSSESSED BY EACH STRUCTURAL VARIATION. %2¤ 0067

A COLLECTION OF ATOMS OF ONE TYPE WHICH CANNOT BE DECOMPOSED INTO ANY SIMPLER UNITS BY ANY CHEMICAL TRANSFORMATION BUT WHICH MAY SPONTANEOUSLY CHANGE INTO OTHER UNITS BY RADIOACTIVE PROCESSES IS CALLED A 1743
A. MOLECULE
*B. ELEMENT
C. COMPOUND

A HOMOGENEOUS, PURE SUBSTANCE COMPOSED OF TWO OR MORE ESSENTIALLY DIFFERENT CHEMICAL ELEMENTS, 1744

WHICH ARE PRESENT IN DEFINITE PROPORTIONS IS CALLED A
A. ATOM
B. MOLECULE
*C. COMPOUND

****

THE STUDENT WILL APPLY THIS KNOWLEDGE OF ELEMENT, COMPOUND AND MIXTURE BY DECIDING THE FORM OF MATTER BE DISCUSSED WHEN GIVEN A DESCRIPTION. %3¤ 0157

TWO ATOMS OF HYDROGEN AND ONE ATOM OF OXYGEN CAN BE BONDED TOGETHER TO FORM A MOLECULE OF HYDROGEN OXIDE, COMMONLY KNOWN AS WATER. THIS FORM OF MATTER IS A %N¤ 1836
*A. COMPOUND.
B. ELEMENT.
C. MIXTURE.

MATTER X IS MADE UP OF ONE KIND OF PARTICLE, ATOMS OF X. THIS FORM OF MATTER IS A *AN¤ 1837
A. COMPOUND.
*B. ELEMENT.
C. MIXTURE.

THE COMBINATION OF GASES INCLUDING NITROGEN, OXYGEN, CARBON DIOXIDE, AND WATER VAPOR IS COMMONLY KNOWN AS AIR. THIS FORM OF MATTER IS A %AN¤ 1838
A. COMPOUND.
B. ELEMENT.
*C. MIXTURE.

****

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF ELEMENTS, COMPOUNDS AND MIXTURES BY IDENTIFYING PROPERTIES AND EXAMPLES OF EACH. %3¤ 0068

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH OF THE FOLLOWING COATINGS MUST BE AN ELEMENT% 0570
A. CHOCOLATE ON AN ICE CREAM BAR
B. PAINT ON A SHUTTER
C. VENEER ON A DESK
*D. PLATING ON A SPOON
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING COMPONENTS OF A STORAGE BATTERY MUST BE A COMPOUND0 0571
A. ELECTRODES
B. PLATES
C. CASING
*D. ACID
E. ALL OF THE ABOVE

WHICH OF THE FOLLOWING HOUSEHOLD ITEMS *MUST* BE A MIXTURE0 0572
A. BAKING SODA %SODIUM BICARBONATE¤
B. WATER %H 2O¤
C. BORIC ACID

*D. STERLING SILVER
F. ALL OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE A KNOWLEDGE OF CHEMICAL SYMBOLS FOR ELEMENTS BY MATCHING THE SYMBOL OR ELEMENT TO GIVEN SYMBOLS OR ELEMENTS. %5□ 0069

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

THE CORRECT SYMBOLS FOR THE FOLLOWING SERIES OF ELEMENTS - CALCIUM, SODIUM, CARBON, SULFUR - ARE WHICH OF THE FOLLOWING CHOICES0 0706
A. C, S, CA, SU
*B. CA, NA, C, S
C. C, NA, CA, SU
D. NONE OF THE ABOVE

THE SYMBOLS - CL, H, FE, I - STAND FOR WHICH OF THE FOLLOWING SERIES OF ELEMENTS0 0707
A. CALCIUM, HELIUM, MERCURY IRON
B. CALCIUM, HYDROGEN, IRON, MERCURY
C. CHLORINE, HELIUM, SILVER, IODINE
*D. NONE OF THE ABOVE

TRANSLATE THE SYMBOLS - K, ZN, AG, P - INTO ONE OF THE FOLLOWING SERIES OF ELEMENTS. 0708
A. KRYPTON, ZIRCON, MERCURY, POTASSIUM
B. KRYPTON, ZINC, GOLD, PHOSPHORUS
C. KRYPTON, ZINC, SILVER, POTASSIUM
*D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING SERIES OF SYMBOLS REPRESENTS THE ELEMENTS- COPPER, LEAD, MAGNESIUM, ALUMINUM0 0709
A. CO, SN, MN, A
B. C, LE, MG, AN
*C. CU, PB, MG, AL
D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS A CORRECT STATEMENT OF A GENERALIZATION ABOUT THE FORMATION OF SYMBOLS FROM AN ELEMENT NAME0 SYMBOLS ARE FORMED FROM THE 0710
A. 1ST LETTER OF THE ELEMENT NAME.
B. 1 1ST LETTER AND 3RD LETTER OF THE ELEMENT NAME.
C. 1ST LETTER OF FOREIGN NAMES.
D. NONE OF THE ABOVE
*F. ALL OF THE ABOVE

****

THE STUDENT WILL DISTINGUISH BETWEEN PHYSICAL AND CHEMICAL PROPERTIES OF MATTER BY CATEGORIZING GIVEN PROPERTIES AS SUCH. %9□ 0070

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH OF THE FOLLOWING IS A PHYSICAL PROPERTY0 0660
A. SUPPORTS COMBUSTION

B. DOES NOT BURN
*C. ODOR
D. COMBINES WITH IRON
F. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS A CHEMICAL PROPERTY OF WATER? 0661
*A. REACTS WITH SODIUM
B. FREEZES AT 32 DEGREES F.
C. BOILS BELOW 100 DEGREES C. ON A MOUNTAIN TOP
D. HAS A SPECIFIC GRAVITY OF 1.0.
F. NONE OF THE ABOVE

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE THREE STATES OF AGGREGATION BY IDENTIFYING WHETHER A CHANGE OF STATE HAS OCCURRED IN A GIVEN SITUATION. %2n 0072

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

WHICH OF THE FOLLOWING REPRESENTS A CHANGE OF STATE? 0662
A. RAIN BECOMES GROUND WATER.
B. TIDE WATER RECEEDS.
*C. AN ICICLE DRIPS.
D. A SNOWFLAKE COMES TO REST.
F. ALL OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A CHANGE OF STATE? 0663
A. DEW FORMING ON THE GRASS.
*B. A SNOWBALL KEPT IN A FREEZER.
C. FROST SUBLIMING FROM THE SIDEWALK.
D. WATER BOILING IN A TEAPOT.
F. ALL OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF THE FOUR DIFFERENT TYPES OF CHEMICAL CHANGES BY SELECTING THE CHEMICAL CHANGE THAT OCCURS ON THE BASIS OF THE PRODUCTS THAT ARE FORMED. %4n 0073

SELECT THE TYPE OF CHEMICAL CHANGE. 24

HYDROGEN IS RELEASED WHEN SODIUM IS ADDED TO WATER. 0687
A. COMBINATION
B. DECOMPOSITION
*C. REPLACEMENT
D. DOUBLE REPLACEMENT

WHEN A COPPER STRIP IS IMMERSED IN SILVER NITRATE SOLUTION, IT BECOMES COATED WITH SILVER. 0688
A. COMBINATION
B. DECOMPOSITION
*C. REPLACEMENT
D. DOUBLE REPLACEMENT

WHEN SILVER BROMIDE SOLUTION IS POURED INTO A SOLUTION OF NICKEL CHLORIDE A WHITE PRECIPITATE OF SILVER CHLORIDE IS FORMED. 0689
A. COMBINATION

B. DECOMPOSITION
C. REPLACEMENT
*D. DOUBLE REPLACEMENT

WHEN VERY FINE IRON WIRE IS HEATED, IT BURNS AND FORMS IRON OXIDE. WHEN CALCIUM CARBONATE IS HEATED, IT GIVES OFF CARBON DIOXIDE GAS. THESE TWO CHANGES ARE 0690
A. BOTH THE SAME TYPE OF CHANGE.
*B. NOT THE SAME TYPE OF CHANGE.
C. IMPOSSIBLE TO COMPARE ON THE BASIS OF INFORMATION GIVEN.

****

THE STUDENT WILL SHOW UNDERSTANDING OF THE STRUCTURE AND PHYSICAL PROPERTIES OF METALS, NON-METALS AND INERT GASES BY SELECTING THE CORRECT PROPERTIES OR STRUCTURE FOR A GIVEN ELEMENT. 0074
%4□

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

AN ATOM HAS 3 ELECTRONS ON ITS OUTER ENERGY LEVEL. IT IS THERE- 0715
FORE A/AN
*A. METAL.
B. NON METAL.
C. INERT GAS.

AN ATOM WITH AN ATOMIC NUMBER OF 16 AND AN ATOMIC WEIGHT OF 32 0716
WOULD ACT AS A %AN□
A. METAL.
*B. NON METAL.
C. INERT GAS.
D. NONE OF THE ABOVE

AN ATOM IS CONSIDERED INERT WHEN IT IS NOT CHEMICALLY ACTIVE 0717
UNDER STANDARD CONDITIONS. THIS INACTIVITY IS DUE TO THE FACT
THAT IT HAS
A. ITS OUTER ENERGY LEVEL RELATIVELY FAR AWAY FROM ITS NUCLEUS.
B. ITS OUTER ENERGY LEVEL RELATIVELY CLOSE TO ITS NUCLEUS.
C. MORE THAN 4 ELECTRONS IN ITS OUTER ENERGY LEVEL.
*D. 8 ELECTRONS IN ITS OUTER ENERGY LEVEL.

SULFUR IS A NON METAL, BUT HAS THE METAL LIKE PROPERTY OF 0718
SHININESS. WHAT OTHER PROPERTY WOULD PREVENT YOU FROM CLASSIFYING
IT AS A METAL?
A. YELLOWNESS
B. LOW MELTING POINT
*C. NON CONDUCTOR OF ELECTRICITY
D. A SOLID AT ROOM TEMPERATURE

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF ACIDS, BASES AND SALTS BY SELECTING WHICH ONE IS INVOLVED AS A RESULT OF A GIVEN CHEMICAL REACTION. %7□ 0075

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A COLORLESS LIQUID IS PROBABLY AN ACID IF IT 0646
B. TURNS RED LITMUS BLUE.

C. LEAVES BLUE LITMUS BLUE.
D. LEAVES RED LITMUS RED.
E. DOES NONE OF THE ABOVE

A COLORLESS LIQUID IS PROBABLY A BASE IF IT 0647
A. TURNS BLUE LITMUS RED.
*B. TURNS RED LITMUS BLUE.
C. LEAVES RED LITMUS RED.
D. DOES NONE OF THE ABOVE

WHICH PROPERTY OF A COLORLESS LIQUID INDICATES IT IS *NOT* WATER0 0648
A. LEAVES BLUE LITMUS BLUE
B. LEAVES RED LITMUS RED
*C. PRODUCES A GAS WHEN ADDED TO BAKING SODA
D. PRODUCES A GAS WHEN ADDED TO BAKING POWDER
E. DOES NONE OF THE ABOVE

WHICH OF THE FOLLOWING WILL COMBINE WITH ZINC TO PRODUCE HYDROGEN0 0649
*A. AN ACID
B. A BASE
C. A SALT
D. WATER
E. NONE OF THESE

WHICH OF THE FOLLOWING IS A PRODUCT OF THE NEUTRALIZING REACTION BETWEEN AN ACID AND BASE0 0650
A. ANOTHER ACID
B. ANOTHER BASE
*C. A SALT
D. HYDROGEN
E. NONE OF THESE

A SUBSTANCE THAT LIBERATES THE POSITIVE HYDROGEN ION IN CHEMICAL REACTIONS IS 0651
*A. AN ACID.
B. A BASE.
C. A HYDROXIDE.
D. AN OXIDE.
E. NONE OF THESE

A SUBSTANCE THAT ACCEPTS THE POSITIVE HYDROGEN ION IN CHEMICAL REACTIONS IS 0652
A. AN ACID.
*B. A BASE.
C. A SALT.
D. NONE OF THESE

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF GENERAL MOLECULAR DIFFERENCES BETWEEN ELEMENTS, COMPOUNDS AND MIXTURES BY SELECTING CHARACTERISTICS OF EACH IN GIVEN SITUATIONS. %12¤ 0076

DIRECTIONS-- BELOW ARE THREE CONTAINERS. THE CONTENTS OF EACH CONTAINER IS LISTED BELOW THAT CONTAINER. 0038

CONTAINER A — EACH MOLECULE IN

CONTAINER B — EACH MOLECULE IN

CONTAINER C — THE MOLECULES IN

THIS CONTAINER IS H_2SO_4

THIS CONTAINER IS O

THIS CONTAINER ARE O AND H_2O

ACCORDING TO THE INFORMATION ABOVE, WHICH OF THE FOLLOWING STATEMENTS IS A VALID INFERENCE ABOUT THE MOLECULES IN THE CONTAINERO IF VALID CIRCLE THE *A*, IF INVALID CIRCLE THE *B*.

A B* CONTAINER C HAS THE GREATEST NUMBER OF MOLECULES. 1004

A B* CONTAINER B HAS A COMPOUND IN IT. 1005

A B* CONTAINER C HAS THE BIGGEST MOLECULES IN IT. 1006

A* B CONTAINER B HAS THE SMALLEST MOLECULES IN IT. 1007

A* B THE SUBSTANCE IN CONTAINER A WOULD BE CLASSIFIED AS A COMPOUND. 1008

A* B THE SUBSTANCE IN CONTAINER A HAS THE LARGEST MOLECULES. 1009

A B* THE SUBSTANCE IN CONTAINER C WOULD BE CLASSIFIED AS A COMPOUND. 1010

DIRECTIONS-- BELOW ARE FOUR CHEMICAL FORMULAE 39

A. H_2O

B. H_2

C. N_2

D. HCL

WHICH OF THE FOLLOWING IS A VALID INFERENCE ABOUT WHY B AND C ARE THE FORMULAE FOR ELEMENTSO IF VALID CIRCLE *A*, IF NOT VALID CIRCLE *B*.

A B* TWO KINDS OF ATOMS ARE REPRESENTED BY EACH SYMBOL. 1011

A B* EACH HAS TWO ATOMS IN IT. 1012

A* B EACH HAS ONLY ONE TYPE OF ATOM IN IT. 1013

A B* A AND D EACH HAVE THREE ATOMS. 1014

A* B ONLY ONE TYPE OF SYMBOL IS USED. 1015

****

THE STUDENT WILL ANALYZE CHEMICAL FORMULAE BY SELECTING VALID INFERENCES ABOUT THE METHOD OF WRITING CHEMICAL FORMULAE. %11□ 0077

DIRECTIONS-- BELOW ARE CHEMICAL FORMULAE 40

$2H_2O \longrightarrow 2H_2 \; \& \; O_2$

$Zn \; \& \; 2HCl \longrightarrow ZnCl_2 \; \& \; H_2$

$2Al_2O_3 \longrightarrow 4Al \& 3O_2$

$2H_2 \& O_2 \longrightarrow 2H_2O$

$CuCO_3 \longrightarrow CuO \& CO_2$

FROM AN ANALYSIS OF THE ABOVE EXAMPLES OF CHEMICAL EQUATIONS, WHICH OF THE FOLLOWING IS A VALID INFERENCE ABOUT THE WAY THAT CHEMICAL EQUATIONS ARE WRITTEN. IF AN INFERENCE IS VALID FOR THE ABOVE INFORMATION CIRCLE *A*, IF INVALID CIRCLE *B*.

A	B* MINUS AND PLUS SYMBOLS CAN BE USED.	1016
A*	B AN ARROW BETWEEN THE TWO SIDES OF A CHEMICAL EQUATION MEANS THE SAME AS *GIVES* OR *EQUALS*.	1017
A	B* THE ARROW BETWEEN THE TWO SIDES OF A CHEMICAL EQUATION CAN BE DRAWN WITH ITS HEAD POINTING EITHER WAY.	1018
A	B* CHEMICAL EQUATIONS CAN BE USED TO SHOW EITHER CHEMICAL OR PHYSICAL CHANGES.	1019
A*	B A FORMULAE IN AN EQUATION CAN REPRESENT EITHER ELEMENTS OR COMPOUNDS.	1020
A	B* THE *NUMBER* OF *FORMULAE* ON EITHER SIDE OF THE ARROW IS THE SAME.	1021
A*	B THE *NUMBER* OF *ATOMS* OF ANY PARTICULAR ELEMENT IS THE SAME ON EITHER SIDE OF THE ARROW.	1022
A	B* THE *TOTAL NUMBER* OF *MOLECULES* ON ONE SIDE OF THE ARROW EQUALS THE TOTAL NUMBER ON THE OTHER SIDE OF THE ARROW.	1023
A*	B A CHEMICAL EQUATION USES CHEMICAL FORMULAE AND NO WORDS.	1024
A	B* FORMULAE ARE LISTED ALPHABETICALLY ON BOTH SIDES OF THE EQUATION.	1025
A	B* ELEMENTS WITH THE SAME FIRST LETTER SHOULD NOT BE USED IN THE SAME EQUATION.	1026

****

THE STUDENT WILL ANALYZE A GIVEN CHEMICAL EQUATION BY INDICATING FAULTS OF INCORRECTLY WRITTEN CHEMICAL EQUATIONS. %7¤ 0078

DIRECTIONS-- BELOW IS AN *INCORRECTLY* WRITTEN CHEMICAL EQUATION. 0041

$2CUO - 2C$ ----- TWO MOLECULES OF COPPER %$2CU$¤ & CO_2

WHICH OF THE FOLLOWING STATEMENTS SHOULD BE *USED TO CORRECT THIS EQUATION*0 IF THE STATEMENT *SHOULD BE USED CIRCLE A*. IF IT SHOULD *NOT* BE *USED CIRCLE B*.

A* B THE NUMBER OF ATOMS OF AN ELEMENT SHOULD BE EQUAL ON BOTH SIDES OF THE EQUATION. 1027

A B* THE NUMBER OF MOLECULES SHOWN ON EACH SIDE OF THE EQUATION SHOULD BE THE SAME. 1028

A* B THE ARROW BETWEEN THE TWO SIDES OF A CHEMICAL EQUATION SHOULD POINT TOWARD THE RIGHT. 1029

A* B CHEMICALS IN THE EQUATION SHOULD BE EXPRESSED BY THEIR FORMULA AND NOT BY WORDS. 1030

A B* THE ELEMENT CARBON SHOULD BE LISTED FIRST ON BOTH SIDES OF THE EQUATION. 1031

A B* BECAUSE THE SYMBOL FOR CARBON IS USED, COPPER SHOULD NOT APPEAR IN THE SAME EQUATION. 1032

A B* THE FORMULAE SHOWN MUST REPRESENT ELEMENTS OR COMPOUNDS. 1033

****

THE STUDENT WILL DEMONSTRATE HIS COMPREHENSION OF THE RULE THAT CHEMICAL EQUATIONS MUST BE BALANCED BY SELECTING THE CORRECT MOLECULAR AMOUNTS FOR THE INCOMPLETE SIDE OF A CHEMICAL EQUATION. 0079
%2□

DIRECTIONS-- BELOW IS AN INCOMPLETE CHEMICAL EQUATION. 1034

$$FE \& O_2 \longrightarrow 2FE_2O_3$$

REMEMBERING THAT *THE NUMBER OF ATOMS OF AN ELEMENT MUST BE EQUAL ON BOTH SIDES OF A CHEMICAL EQUATION*, SELECT THE CORRECT PAIR OF NUMBERS TO COMPLETE THE LEFT SIDE OF THE EQUATION. THE ORDER OF THE NUMBERS MUST BE CONSIDERED.

A. 1,1
B. 2,3
*C. 4,3
D. 2,1
E. 3,3
F. 3,2

ACCORDING TO THE ABOVE STATED RULE WHICH NUMBER CORRECTLY COMPLETES THIS EQUATIONO 1035

$$2KCL \& 3O_2 \longrightarrow KCLO_3$$

A. 3
*B. 2
C. 1
D. 4

****

THE STUDENT WILL ANALYZE A LIST OF MIXTURES REPRESENTED BY FORMULAE AND A LIST OF FORMULAE REPRESENTING CHEMICAL REACTIONS BY SELECTING VALID INFERENCES ABOUT THE REPRESENTATION OF MIXTURES BY FORMULA. %10□ 0080

DIRECTIONS -- STUDY THE CHART BELOW. 42

EXAMPLES OF MIXTURES REPRESENTED BY FORMULAE	FORMULA WRITTEN AS PART OF A CHEMICAL CHANGE
3MGO . 4SIO . H O 2 2	NA & CL ⟶ NACL
4GSO . 7H O 4 2	CACO & SIO ⟶ CASIO & CO 3 2 3 2
3S . 5FE	2CUO & C ⟶ 2CU & CO 2

THE ABOVE LEFT COLUMN SHOWS THAT THERE *IS* A WAY TO REPRESENT MIXTURES BY FORMULAE. WHICH OF THE FOLLOWING ARE VALID INFERENCES ABOUT THE WAY THAT A MIXTURE IS REPRESENTED BY FORMULAE COMPARED TO THE USE OF FORMULAE IN A CHEMICAL EQUATION. IF IT IS VALID CIRCLE *A*. IF IT IS INVALID CIRCLE *B*.

A B* THERE ARE NO COMPOUND FORMULAE IN MIXTURES BUT THERE ARE IN CHEMICAL EQUATIONS. 1036

A* B THERE IS A BEFORE, AND AFTER SIDE TO A CHEMICAL EQUATION BUT NOT IN A MIXTURE. 1037

A* B A CHEMICAL EQUATION INDICATES THAT SOMETHING IS HAPPENING OR GOING TO HAPPEN BUT THE FORMULAE IN A MIXTURE DOES NOT. 1038

A B* A DOT %.¤ AND A PLUS SIGN %&¤ MEAN THE SAME THING. 1040

A B* A CHEMICAL EQUATION AND A MIXTURE BOTH INDICATE THE FORMATION OF NEW MOLECULES. 1041

A B* PURE ELEMENTS ARE ONLY INVOLVED IN CHEMICAL EQUATIONS BUT CANNOT BE SHOWN IN A MIXTURE. 1042

A B* THE MOLECULES IN A MIXTURE ARE ALL ATTACHED TO EACH OTHER TO FORM ONE BIG MOLECULE AND SO DO THE MOLECULES IN A CHEMICAL EQUATION 1043

A* B DOTS %.¤ ARE USED BETWEEN FORMULAE IN MIXTURES BUT PLUSES %&¤ ARE NOT USED. 1044

A* B DOTS MEAN THAT THE FORMULAE IN A MIXTURE WILL NEVER CHEMICALLY COMBINE. 1045

****

THE STUDENT WILL DEMONSTRATE HIS COMPREHENSION OF THE MEANING OF FORMULAE USED TO REPRESENT A MIXTURE BY MATCHING IT WITH ITS CORRECT INTERPRETATION. %2¤ 0081

BELOW IS A CHEMICAL EXPRESSION 1046
F 3 . C . CAO
2 3

WHICH OF THE FOLLOWING IS A CORRECT INTERPRETATION OF THIS EXPRESSION0

*A. A MIXTURE CONTAINING TWO COMPOUNDS AND AN ELEMENT.
B. THIS SHOWS THE LEFT SIDE OF A CHEMICAL EQUATION CONTAINING ELEMENTS AND COMPOUNDS.
C. A COMPOUND CONTAINING FIVE DIFFERENT ELEMENTS.
D. FIVE DIFFERENT ELEMENTS ARE SHOWN BUT THEIR MOLECULES ARE UNATTACHED.

****

THE STUDENT WILL ANALYZE GIVEN CHEMICAL FORMULAE AND THEIR CORRECT INTERPRETATIONS BY SELECTING VALID CONCLUSIONS ABOUT THE WRITING OF CHEMICAL FORMULAE. %11□ 0082

DIRECTIONS-- ANALYZE THE THREE FORMULAE BELOW AND COMPARE THEM TO THEIR INTERPETATIONS. 0043

$2H_2O$--TWO MOLECULES OF H_2O %WATER□--EACH MOLECULE CONTAINS TWO ATOMS OF HYDROGEN AND ONE ATOM OF OXYGEN

H_2SO_4--ONE MOLECULE OF H_2SO_4. IT CONTAINS TWO ATOMS OF HYDROGEN, ONE ATOM OF SULFUR AND FOUR ATOMS OF OXYGEN

$5NH_3OH$--FIVE MOLECULES OF NH_3OH. EACH MOLECULE CONTAINS ONE ATOM NITROGEN, FOUR ATOMS OF HYDROGEN AND ONE ATOM OF OXYGEN

WHICH OF THE FOLLOWING STATEMENTS IS A VALID INFERENCE ABOUT THE WRITING OF CHEMICAL FORMULAE. IF THE STATEMENT IS VALID CIRCLE *A*. IF IT IS INVALID CIRCLE *B*.

A B* THE SYMBOL FOR AN ELEMENT CAN ONLY APPEAR ONCE IN A CHEMICAL FORMULA. 1048

A B* ELEMENT SYMBOLS APPEAR IN ALPHABETICAL ORDER IN A FORMULA. 1049

A* B GENERALLY SOME ELEMENTS SYMBOLS APPEAR MORE OFTEN AT THE FRONT OF A FORMULA THAN OTHERS. 1050

A B* THE NUMBERS RECORDED BELOW ELEMENT SYMBOLS STAND FOR THE NUMBER OF MOLECULES. 1051

A B* THE NUMBERS RECORDED BELOW ELEMENT SYMBOLS TELL SOMETHING ABOUT THE SYMBOL *IMMEDIATELY FOLLOWING* THE NUMBER. 1052

A* B THE LARGE NUMBERS AT THE FRONT OF A FORMULA STAND FOR THE NUMBER OF MOLECULES. 1053

A B* YOU CAN FIND THE TOTAL NUMBER OF ATOMS IN *A MOLECULE* BY JUST ADDING THE NUMBERS IN THE FORMULA. 1054

A* B ONE MOLECULE OR ONE ATOM IS NEVER REPRESENTED BY THE NUMBER ONE. 1055

A* B THE NUMBERS WRITTEN BELOW THE SYMBOLS TELL SOMETHING ABOUT THE ELEMENT WHOSE SYMBOL APPEARS IMMEDIATELY BEFORE THE NUMBER. 1056

A B* THE LARGE NUMBER AT THE BEGINNING OF THE FORMULA STANDS FOR THE NUMBER OF ATOMS IN EACH MOLECULE. 1057

A* B THE NUMBERS LISTED BELOW THE ELEMENT SYMBOLS STAND FOR THE NUMBER OF ATOMS. 1058

****

THE STUDENT WILL ANALYZE A LIST OF ELEMENTS AND THEIR SYMBOLS BY SELECTING CONCRETE INFERENCES ABOUT THE PROCESS OF SYMBOL WRITING. %13% 0177

DIRECTIONS - BEFORE YOU IS A SHEET CONTAINING ALL OF THE ELEMENTS AND THEIR SYMBOLS. STUDY THEM CAREFULLY AND BASED UPON YOUR OBSERVATION OF THE LIST CHOOSE THE CORRECT OR BEST ANSWER TO EACH OF THE FOLLOWING QUESTIONS.

WHICH OF THE FOLLOWING IS TRUE ABOUT THE *MAJORITY* OF ELEMENT SYMBOLSO THEY CONTAIN 1922
A. A SINGLE CAPITAL LETTER.
B. TWO CAPITAL LETTERS.
C. TWO SMALL LETTERS.
*D. A CAPITAL LETTER WITH A SMALL LETTER AFTER IT.
E. A SMALL LETTER WITH A CAPITAL LETTER AFTER IT.

DETERMINE WHICH OF THE FOLLOWING IS A CORRECT INFERENCE ABOUT THE *SECOND LETTER* IN THE *MAJORITY* OF *TWO LETTER SYMBOLS*. THE SECOND LETTER APPEARS 1925
*A. IN THE FIRST HALF OF THE ELEMENT,S NAME.
B. IN THE LAST HALF OF THE ELEMENT,S NAME.
C. IS NOT IN THE ELEMENT,S NAME.
D. IS THE FIRST LETTER IN THE ELEMENT,S NAME.

DIRECTIONS - BELOW IS A LIST OF 8 ELEMENTS AND THEIR SYMBOLS.

SAMARIUM - SM	SILICON - SI	SILVER - AG
SCANDIUM - SC	STRONTIUM - SR	SELENIUM - SE
SODIUM - NA	SULFUR - S	

WHICH OF THE FOLLOWING IS A VALID INFERENCE ABOUT THE LETTERS USED FOR THESE ELEMENTS SYMBOLS. CIRCLE *A* IF IT IS *VALID*. CIRCLE *B* IF THE INFERENCE IS *INVALID*.

A B* THE SECOND LETTER IN THE TWO LETTER SYMBOLS IS THE SECOND LETTER IN THE ELEMENTS NAME. 1926

A* B SOME SYMBOL LETTERS DO NOT COME FROM THE ELEMENT,S NAME. 1927

A B* BECAUSE OF THEIR SYMBOLS THE ELEMENTS WERE DISCOVERED IN THE ORDER THAT THEY ARE LISTED. 1928

A* B IN MOST CASES, THE SECOND LETTER IS USED TO DISTINGUISH ONE ELEMENT SYMBOL FROM ANOTHER. 1929

DIRECTIONS - BELOW IS A LIST OF THREE ELEMENTS.
SAMARIUM - SM SULFUR - S SILICON - SI

OF THE ELEMENTS IN THIS LIST, THE ONE WHOSE SYMBOL WAS MOST LIKELY MADE UP FIRST WAS SULFUR. WHICH OF THE FOLLOWING WERE CONSIDERED IN ARRIVING AT THIS CONCLUSIONO FOR THOSE THAT WERE CONSIDERED RELEVANT CIRCLE THE *A*. THOSE STATEMENTS THAT DID NOT ASSIST YOU IN THE CONCLUSION CIRCLE THE *B*.

A* B THE SYMBOL FOR SULFUR IS ONLY ONE LETTER AND THE OTHERS CONTAIN TWO LETTERS. 1930

A B* IF LISTED ALPHABETICALLY BY THE 4TH LETTER, SULFUR WOULD APPEAR FIRST. 1931

A* B THE FIRST LETTER IN SULFUR'S NAME IS AN S AND THE OTHER ELEMENTS ALSO START WITH AN S. 1932

A B* THE SECOND LETTER IN ITS NAME IS A MORE COMMONLY USED VOWEL. 1933

A* B ALPHABETICAL ORDER MUST BE CONSIDERED WHEN ASSIGNING SYMBOLS TO ELEMENTS. 1934

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THE STUDENT WILL DISTINGUISH BETWEEN CONCLUSIONS AND OBSERVATIONS IN AN EXPERIMENT BY IDENTIFYING CONCLUSIONS FROM A SET OF CONCLUSIONS AND OBSERVATIONS. %2□ 0083

WHICH OF THE FOLLOWING IS A CONCLUSION? 1059
A. THE WATER STARTED TO BUBBLE AROUND THE SIDES OF THE BEAKER.
B. THE FLAME OF THE ALCOHOL LAMP ENDED ABOUT 2 CM BELOW THE BEAKER.
*C. THE WATER CHANGED COLORS FROM CLEAR TO BLUE BECAUSE OF HEATING.
D. THE TEMPERATURE OF THE WATER ROSE FROM 25 C TO 40 C IN 5 MINUTES.

WHICH OF THE FOLLOWING IS A CONCLUSION? 1060
A. THE HIGHER THE PENDULUM WAS RAISED, THE FASTER IT WOULD GO AS IT PASSED THROUGH THE MID-POINT OF ITS SWING.
*B. THE PENDULUM SWUNG DOWN BECAUSE OF GRAVITY.
C. THE STRING ATTACHED TO THE BOB ALWAYS WAS TAUGHT.
D. THE PENDULUM ROSE THE SAME AMOUNT ON EITHER SIDE OF ITS SWING.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF USING DENSITY TO IDENTIFY AN UNKNOWN SUBSTANCE BY SELECTING A PROCEDURE INVOLVING DENSITY WHICH IDENTIFIES AN UNKNOWN SUBSTANCE. %1□ 0084

A STUDENT WAS SEEKING THE IDENTITY OF TWO UNKNOWN SUBSTANCES. ONE, WAS A YELLOW COLORED LIQUID, AND THE OTHER WAS A PEBBLE LIKE SOLID. WHICH PROCEDURE WOULD BE BEST TO IDENTIFY THE TWO SUBSTANCES? 1061
A. MEASURE THE VOLUME OF BOTH SUBSTANCES AND THEN USE A DENSITY TABLE TO IDENTIFY THEM.
B. MEASURE THE VOLUME OF BOTH SUBSTANCES BY SIMULTANEOUSLY POURING BOTH INTO A GRANDUATED CYLINDER AND THEN FIND THE MASS OF BOTH. AFTER CALCULATING THE DENSITIES, A DENSITY TABLE CAN BE USED TO IDENTIFY THE SUBSTANCES.
*C. MEASURE THE VOLUME OF THE LIQUID IN A GRADUATED CYLINDER, IF POSSIBLE, MEASURE THE VOLUME OF THE SOLID BY WATER DISPLACEMENT. MEASURE THE MASS OF BOTH SUBSTANCES. AFTER

CALCULATING DENSITIES, A TABLE CAN BE USED TO IDENTIFY THE SUBSTANCES.

D. POUR THE LIQUID INTO A GRADUATED CYLINDER AND NOTE ITS VOLUME. IF POSSIBLE, POUR THE SOLID INTO THE LIQUID IN THE CYLINDER AND NOTE THE NEW VOLUME--FROM THESE MEASUREMENTS THE VOLUME OF THE SOLID CAN BE FOUND. MASS MEASUREMENTS ARE NEEDED OF BOTH SUBSTANCES BEFORE THE DENSITIES IN CM^3/G CAN BE CALCULATED. FINALLY, A DENSITY TABLE CAN BE USED TO IDENTIFY THE SUBSTANCES.

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THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF THE VARIOUS INDICATOR TESTS FOR ACIDS AND BASES BY SELECTING WHETHER THE RESULTS INDICATE AN ACID, BASE OR NEUTRAL. %6□ 0085

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

GIVEN A SUBSTANCE THAT TURNS RED LITMUS PAPER BLUE, YOU WOULD CONCLUDE THAT THE SUBSTANCE WAS 0751
A. AN ACID.
*B. A BASE.
C. NEUTRAL.
D. CANNOT BE DETERMINED

A BASE WILL 752
A. TURN RED LITMUS PAPER BLUE.
B. TURNS BLUE LITMUS PAPER RED.
C. NOT CHANGE THE COLOR OF LITMUS PAPER.
D. HAVE A READING OVER 5 ON PH PAPER.
*E. BOTH A AND D
F. BOTH C AND D

AN ACID WILL 753
A. TURN RED LITMUS PAPER BLUE.
*B. TURN BLUE LITMUS PAPER RED.
C. NOT CHANGE THE COLOR OF LITMUS PAPER.
D. NONE OF THE ABOVE

ALL OF THE FOLLOWING ARE TESTS FOR ACIDS *EXCEPT* 0754
A. BLUE LITMUS PAPER TURNS RED.
*B. A PH READING OF 2.
C. A PH READING OF 8.
D. RED LITMUS PAPER TURNS BLUE.
E. BOTH A AND B
F. BOTH C AND D

WHICH OF THE FOLLOWING ARE TESTS FOR BASES0 0755
A. BLUE LITMUS PAPER TURNS RED.
B. RED LITMUS PAPER TURNS BLUE.
C. PH READING OF 10.
*D. ONLY B AND C
E. NONE OF THE ABOVE

IF A SUBSTANCE IS NEUTRAL WHICH OF THE FOLLOWING WOULD BE TRUE0 0756
A. RED LITMUS PAPER WILL BURN BLUE.
B. BLUE LITMUS PAPER WILL TURN RED.
*C. NO CHANGE IN RED OR BLUE LITMUS PAPER.
D. PH READING OF 1.

E. NONE OF THE ABOVE

****

THE STUDENT WILL SHOW KNOWLEDGE OF CHEMICAL BONDING OF ATOMS BY IDENTIFYING PROPERTIES AND CHANGES THAT OCCUR AS A RESULT OF THE BONDING. %8□ 0086

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHEN TWO OR MORE ATOMS ARE LINKED TOGETHER THEY FORM 0743
A. A COMPOUND.
*B. A MOLECULE.
C. A MIXTURE.
D. NONE OF THE ABOVE

A SUBSTANCE THAT CONSISTS OF TWO OR MORE ELEMENTS CHEMICALLY COMBINED IS CALLED 0744
A. A MIXTURE
B. A MOLECULE.
*C. A COMPOUND.
D. NONE OF THE ABOVE

WHAT IS THE SMALLEST UNIT INTO WHICH A COMPOUND CAN BE DIVIDED AND STILL RETAIN ALL THE PROPERTIES OF THE COMPOUND0 0745
A. AN ATOM
B. AN ELEMENT
*C. A MOLECULE
D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* A TRUE STATEMENT CONCERNING A COMPOUND0 0746
A. A COMPOUND,S SMALLEST PART THAT RETAINS ALL PROPERTIES IS A MOLECULE.
B. IN A COMPOUND THE ATOMS UNDERGO CHEMICAL REACTION WHEN JOINED.
C. A COMPOUND CONSISTS OF TWO OR MORE ELEMENTS.
*D. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS NOT A COMPOUND0 0747
A. SODIUM CHLORIDE
*B. OXYGEN
C. WATER
D. HYDROCHLORIC ACID
E. ALL OF THE ABOVE

WHICH OF THE FOLLOWING IS A TRUE STATEMENT CONCERNING CHEMICAL BONDING0 0748
A. CHEMICAL BONDING IS A FORCE THAT HOLDS ATOMS TOGETHER.
B. THERE ARE TWO TYPES OF CHEMICAL BONDING.
C. IN BONDING, ATOMS CAN GAIN, LOSE OR SHARE ELECTRONS.
*D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

IN IONIC BONDING 749
A. ATOMS GAIN ELECTRONS.
B. ATOMS LOSE ELECTRONS.
C. ATOMS SHARE ELECTRONS.
D. ALL OF THE ABOVE
*E. ONLY A AND B

F. NONE OF THE ABOVE

IN COVALENT BONDING 750
A. ATOMS GAIN ELECTRONS.
B. ATOMS LOSE ELECTRONS.
*C. ATOMS SHARE ELECTRONS.
D. ALL OF THE ABOVE
E. NONE OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF SOLUTIONS BY SELECTING CHARACTERISTICS AND EXAMPLES OF SATURATED, UNSATURATED AND SUPERSATURATED SOLUTIONS. %5□ 0087

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

WHICH OF THE FOLLOWING IS *NOT* A SOLUTION0 0583
A. AIR
*B. RUBBING ALCOHOL
C. SODA POP
D. SEA WATER

IF A BEAKER CONTAINS A CLEAR, COLORLESS LIQUID, THEN IT CONTAINS 0584
A. WATER.
B. A DILUTE SOLUTION.
C. A TRUE SOLUTION.
D. A SUPERSATURATED SOLUTION.
*E. NOT ENOUGH INFORMATION GIVEN

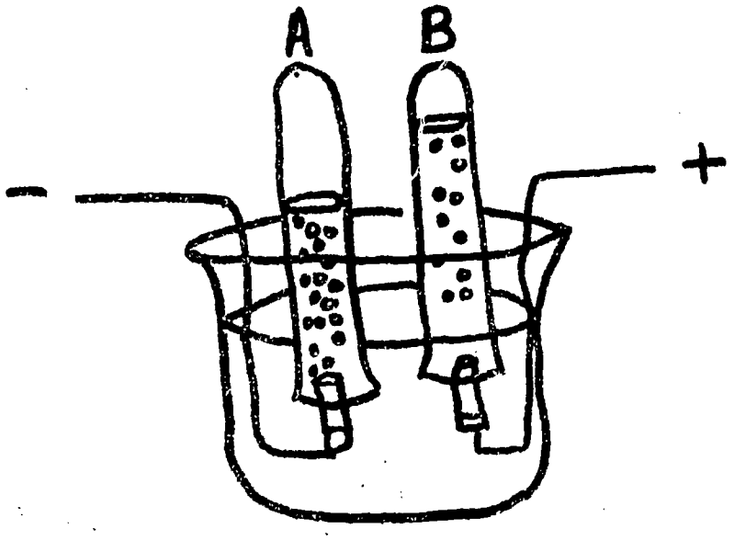
IF A BEAKER CONTAINS WHITE CRYSTALS AND A CLEAR, COLORLESS LIQUID IT *CANNOT* BE A: 0585
A. TRUE SOLUTION.
B. SATURATED SOLUTION.
C. WATER SOLUTION.
*D. SUPERSATURATED SOLUTION.
E. CONCENTRATED SOLUTION.
F. DILUTE SOLUTION.

A SATURATED SOLUTION MAY BE A DILUTE SOLUTION WHEN 0587
A. LITTLE SOLUTE IS USED.
B. LITTLE SOLVENT IS USED.
*C. THE SOLUTE IS VERY SLIGHTLY SOLUBLE IN THE SOLVENT.
D. THE SOLVENT EVAPORATES.
E. NONE OF THE ABOVE

A SATURATED SOLUTION MAY BE A CONCENTRATED SOLUTION WHEN 0588
A. MUCH SOLUTE IS USED.
B. MUCH SOLVENT IS USED.
*C. THE SOLUTE IS VERY SOLUBLE IN THE SOLVENT.
D. THE SOLVENT EVAPORATES.
F. ALL OF THE ABOVE

****

THE STUDENT WILL ANALYZE THE PROCESS OF ELECTROLYSIS BY DESCRIBING THE CHARGE AND CHEMICAL REACTIONS IN AN ELECTROLYTIC EXPERIMENT. %10□ 0088


A
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PROPERTIES OF 4 GASES

NAME	CHARGE	VALENCE	SOLUBLE IN WATER	SPLINT TEST
REC	6	3	HIGHLY	SUPPORTS COMBUSTION
TRI	6	1	INSOLUBLE	COMBINES RAPIDLY WITH OXYGEN CAUSING A BARKING SOUND
CER	-	2	SLIGHTLY	DOES NOT COMBINE WITH O_2
STA	-	2	INSOLUBLE	SUPPORTS COMBUSTION

THE GAS IN TEST TUBE B WAS TESTED BY PLACING A GLOWING SPLINT INTO IT. THE SPLING IMMEDIATELY BURST INTO FLAME. FROM THIS TEST, WHICT OF THE FOLLOWING IS *NOT* A POSSIBLE CHOICEO 0727

A. REC
B. TRI
*C. CER
D. STA

FROM YOUR OBSERVATION OF DIAGRAM 1, WHAT IS THE CHARGE OF THE GAS IN TEST TUBE BO 0728

A. POSITIVE
*B. NEGATIVE
C. NEUTRAL

FROM QUESTIONS 1 AND 2 WHAT DO YOU CONCLUDE THE GAS IN TEST TUBE B TO BEO 0729

A. REC
B. TRI
C. CER
*D. STA

THE GAS IN TEST TUBE A WAS TESTED BY PULLING A FLAMING SPLINT IN IT. THIS RESULTED IN A BARKING SOUND. FROM THIS RESULT YOU WOULD CONCLUDE THE GAS IN TEST TUBE A TO BE 0730

A. REC
*B. TRI
C. CER
D. STA

FROM YOU OBSERVATION OF DIAGRAM 1, WHAT IS THE CHARGE OF THE GAS IN TEST TUBE AO 0731

*A. POSITIVE
B. NEGATIVE
C. NEUTRAL

THE GAS COLLECTS IN TEST TUBE A BECAUSE IT HAS A 0732

A. NEGATIVE CHARGE, THEREFORE COLLECTS AT THE NEGATIVE ELECTRODE.
B. POSITIVE CHARGE, THEREFORE COLLECTS AT THE POSITIVE ELECTRODE.
C. NEGATIVE CHARGE, THEREFORE COLLECTS AT THE POSITIVE ELECTRODE.
*D. POSITIVE CHARGE, THEREFORE COLLECTS AT THE NEGATIVE ELECTRODE.

THE GAS COLLECTS IN TEST TUBE B BECAUSE IT HAS A 0733

A. NEGATIVE CHARGE, THEREFORE COLLECTS AT THE NEGATIVE ELECTRODE.
B. POSITIVE CHARGE, THEREFORE COLLECTS AT THE POSITIVE

ELECTRODE.
*C. NEGATIVE CHARGE, THEREFORE COLLECTS AT THE POSITIVE ELECTRODE.
D. POSITIVE CHARGE, THEREFORE COLLECTS AT THE NEGATIVE ELECTRODE.

FROM YOUR OBSERVATION OF DIAGRAM 1, HOW WOULD YOU EXPLAIN THE DIFFERENCE IN THE AMOUNTS OF GAS COLLECTED IN EACH TUBE? 0734
A. THE GAS IN TEST TUBE A COLLECTS MORE REPIDLY THAN B.
*B. GAS A IS IN A 2 TO 1 RATIO WITH GAS B.
C. GAS B IS MORE SOLUBLE THAN GAS A.
D. NOT ENOUGH INFORMATION GIVEN TO ANSWER QUESTION

FROM YOUR UNDERSTANDING OF THE 4 TYPES OF CHEMICAL REACTIONS, WHAT TYPE IS ILLUSTRATED IN DIAGRAM 10 0735
A. COMBINATION
*B. DECOMPOSITION
C. REPLACEMENT
D. DOUBLE REPLACEMENT

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF THE WRITING OF CORRECTLY BALANCED EQUATIONS BY SELECTING AN EQUATION THAT EXPRESSES A GIVEN CHEMICAL REACTION. %3¤ 0089

AFTER THE FOLLOWING CHEMICAL CHANGE DESCRIPTION, SELECT THE CORRECT BALANCED EQUATION. 0023

MAGNESIUM WILL COMBINE WITH THE OXYGEN IN THE AIR WHEN HEATED. 0684
A. MG & O GOES TO MGO
2

B. 2GM & O GOES TO 2MGO
2

C. MG & O GOES TO 2MGO
2

*D. 2MG & O GOES TO 2MGO
2

WHEN SODIUM IS PLACED IN WATER, HYDROGEN GAS IS RELEASED AND SODIUM OXIDE IS FORMED. 0685
A. NA & H O GOES TO NAH O
2 2
B. H O & NA GOES TO NA O & H %ARROW POINTING UP¤
2 2
C. 2NA & 2H O GOES TO 2H %ARROW POINTING UP¤ & NA O
2 2 2
*D. 2NA & H O GOES TO H %ARROW POINTING UP¤ & NA O
2 2 2

ZINC, IN A SOLUTION OF NICKEL CHLORIDE, WILL REPLACE THE NICKEL. 0686
A. ZN & NICL GOES TO NIZNCL
2
B. NICL & ZN GOES TO ZNCL & 2 NI
2 2
*C. NICL & ZN GOES TO NI & ZNCL
2 2

D. 2ZN & 2NICL GOES TO 2NI & ZNCL
                2   2

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF AN ATOM,S ABILITY TO COMBINE CHEMICALLY BY IDENTIFYING CORRECT CHEMICAL FORMULAE FOR GIVEN COMPOUNDS. %3□ 0090

ALUMINUM AND CHLORINE COMBINE ON A 1 TO 3 RATIO. THE FORMULA FOR ALUMINUM CHLORIDE IS 0719
A. AL CL
      3
*B. ALCL
       3
C. 3AL CL
D. AL 3CL

THE VALENCE OF CHROMIUM IS PLUS 3 AND THE VALENCE OF ASTATINE IS -1. THEY WILL COMBINE TO PRODUCE WHICH OF THESE FORMULAS. 0720
*A. CRAT
       3
B. CR AT
      3
C. CR3AT
D. 3CRAT

WHAT DIFFERENCES BETWEEN OXYGEN ATOMS AND CHLORINE ATOMS ACCOUNT FOR THE DIFFERENCES IN THE NUMBER OF HYDROGEN ATOMS IN THESE TWO FORMULAS, H O AND HCIO 0721
                2
A. OXYGEN HAS 1 LESS ENERGY LEVEL THAN CHLORINE.
B. OXYGEN HAS 2 MORE ELECTRONS IN ITS OUTER ORBIT.
*C. OXYGEN NEEDS 1 MORE ELECTRON THAN CHLORINE DOES TO COMPLETE ITS OUTER SHELL.
D. OXYGEN HAS 1/2 AS MANY ELECTRONS AS DOES CHLORINE.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF HYDROCARBONS BY IDENTIFYING THE COMPOSITION AND PROPERTIES OF HYDROCARBONS. %3□ 0091

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

HYDROCARBON COMPOUNDS EXIST IN GREAT VARIETY BECAUSE CARBON ATOMS 0622
A. ARE FOUND IN ALL HYDROCARBONS.
B. EACH HAVE FOUR BONDS.
C. FORM COVALENT BONDS.
*D. FORM MOLECULES WHICH LINK CARBON ATOMS IN CHAINS, BRANCHES, OR RINGS.

HYDROCARBON MOLECULES ARE GENERALLY 623
A. COVALENT.
B. HELD TOGETHER BY SHARED ELECTRONS.
C. THREE DIMENSIONAL.
D. FOUND IN LIVING THINGS.
*E. ALL OF THE ABOVE

A MOLECULE OF METHANE, CH_4, IS A HYDROCARBON BECAUSE
*A. IT IS COMPOSED OF CARBON AND HYDROGEN ATOMS.
B. IT CONTAINS CARBON ATOMS AND HYDROGEN ATOMS IN THE RATIO 1 TO 4.
C. IT CONTAINS MORE HYDROGEN THAN CARBON.
D. IT IS COMBUSTIBLE.
E. ALL OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE COMPREHENSION OF THE TERMS ADHESION AND COHESION BY IDENTIFYING EXAMPLES OF INTERMOLECULAR FORCES HOLDING MATTER TOGETHER. %2¤ 0092

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

WHICH EXAMPLE LISTED DEPENDS ON THE FORCE OF COHESION0 0561
A. A POSTAGE STAMP ON A LETTER.
*B. A RAZOR BLADE FLOATING ON WATER.
C. GRIME ON THE WINDOW PANE.
D. GUM ON THE SOLE OF YOUR SHOE.
E. NONE OF THE ABOVE

WHICE EXAMPLE LISTED DEPENDS ON THE FORCE OF ADHESION0 0562
A. BLOWING SOAP BUBBLES.
B. ROLLING SEVERAL BALLS OF MERCURY INTO ONE.
*C. WRITING LINES ON PAPER WITH A PENCIL.
D. HEAPING WATER UP IN A GLASS.
E. NONE OF THE ABOVE

****

ENERGY

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF TERMS COMMONLY USED IN THE STUDY OF ENERGY BY MATCHING THE TERM WITH ITS DEFINITION. %6¤ 0093

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH IS AN EXAMPLE OF WORK BEING DONE0 0573
*A. STRIKING A BALL WITH A BAT.
B. THINKING OF A TELEPHONE NUMBER.
C. PULLING UP ON A LOCKED GARAGE DOOR.
D. NONE OF THE ABOVE
E. ALL OF THE ABOVE

WHICH IS AN EXAMPLE OF POWER0 574
A. LIFTING A 100 POUND WEIGHT
B. LIFTING A 100 POUND WEIGHT WITH ONE FOOT
C. LIFTING A 100 POUND WEIGHT WITH ONE FOOT AND ONE HAND
*D. LIFTING A 100 POUND WEIGHT WITH ONE FOOT IN FIVE SECONDS
E. ALL OF THE ABOVE

WHICH IS %NOT* AN EXAMPLE OF FORCE0 575
A. A MAGNET PULLING AN IRON NAIL TOWARD IT.
B. A PENCIL ROLLING ACROSS THE DESK IS STOPPED BY YOUR HAND.
*C. AN ASTRONAUT FLOATING IN A WEIGHTLESS STATE.
D. A CHILD PULLING A WAGON.

E. ALL OF THE ABOVE

WHICH OF THE FOLLOWING ILLUSTRATES THE PROPERTY OF INERTIAO 0576
A. THE STRUCK PINGPONG BALL FLIES THROUGH THE OPEN WINDOW.
B. THE BOULDER REMAINS POISED ON THE EDGE OF THE CLIFF.
C. THE BOOK SLIDES OFF THE SEAT OF THE CAR WHICH IS SUDDENLY STOPPED.
*D. ALL OF THE ABOVE

WHICH TERM IS NEEDED TO DESCRIBE THE MEANING OF *ENERGY*0 0578
*A. WORK
B. POWER
C. FORCE
D. INERTIA

****

THE STUDENT WILL SHOW UNDERSTANDING OF ENERGY TRANSFORMATION BY IDENTIFYING THE TRANSFORMATION THAT HAS OCCURRED OR THE FACTORS INVOLVED IN A GIVEN TRANSFORMATION. %4□ 0094

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE ENERGY STORED IN THE MATTER OF THE SUN REACHES THE EARTH BECAUSE IT IS CONVERTED TO 0653
A. KINETIC ENERGY.
*B. RADIANT ENERGY.
C. LIGHT ENERGY.
D. HEAT ENERGY.
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING DOES *NOT* USE ENERGY DERIVED FROM THE SUN TO PRODUCE HEAT ENERGY0 0654
A. A SMOLDERING LOG
B. A CHIRPING BIRD
C. A BURNING ALCOHOL LAMP
*D. A RUSTING NAIL
E. NONE OF THE ABOVE

THE PROCESS OF PHOTOSYNTHESIS INCORPORATES CERTAIN ENERGY CHANGES WHICH ENTAILS 0655
A. POTENTIAL ENERGY CHANGED TO KINETIC ENERGY.
B. NUCLEAR ENERGY CHANGED TO RADIANT ENERGY.
C. RADIANT ENERGY CHANGED TO CHEMICAL ENERGY.
D. KINETIC ENERGY CHANGED TO POTENTIAL ENERGY.
*F. ALL OF THE ABOVE

THE BLAST-OFF OF A ROCKET ENTAILS THE FOLLOWING CONVERSION OF ENERGY. 0656
A. POTENTIAL ENERGY CONVERTED TO KINETIC ENERGY.
B. CHEMICAL ENERGY CONVERTED TO MECHANICAL ENERGY.
C. CHEMICAL ENERGY CONVERTED TO HEAT ENERGY.
D. HEAT ENERGY CONVERTED TO LIGHT ENERGY.
*F. ALL OF THE ABOVE

****

STUDENT WILL DISTINGUISH BETWEEN THE DIFFERENT FORMS OF 0095
RGY BY LISTING DEFINITIONS AND EXAMPLES OF THE DIFFERENT

FORMS. %4□

THE ABILITY TO DO WORK IS KNOWN AS 1716
*A. POTENTIAL ENERGY
B. KINETIC ENERGY

THAT PART OF THE ENERGY OF A BODY WHICH THE BODY POSSESSES AS A RESULT OF ITS MOTION IS KNOWN AS 1717
A. POTENTIAL ENERGY
*B. KINETIC ENERGY

AN EXAMPLE OF A BODY CONTAINING POTENTIAL ENERGY IS A 1718
A. HIPPOPOTAMUS RUNNING IN CIRCLES
B. HIGH JUMPER JUST BEFORE HE LEAVES THE GROUND
*C. LARGE BOULDER ON TOP OF A CASTLE WALL
D. CAR MOVING AT 60 M.P.H.

AN EXAMPLE OF A BODY CONTAINING KINETIC ENERGY IS 1719
A. A BALL THROWN UPWARD, AT THE TOP OF ITS PATH
B. AN UNEXPLODED STICK OF DYNAMITE
*C. A TENNY-BOPPER DOING THE FUNKY CHICKEN

****

GIVEN A PARAGRAPH ON THE DISCOVERY OF RADIUM AND ITS RELATION TO ATOMIC ENERGY, THE CHILD WILL EVALUATE THE STATEMENT BY SELECTING CONCLUSIONS FROM IT. %1□ 0158

IN 1898 MADAME CURIE DISCOVERED RADIUM. IT WAS DISCOVERED THAT ATOMS OF RADIATION THREW OFF PARTICLES AND RADIATIONS THAT WENT THROUGH FLESH AND EVEN SOME METAL. THIS RADIATION LED SCIENTISTS TO BELIEVE THAT THEY COULD USE THE POWER GIVEN OFF TO DO MANY THINGS THAT HAD PREVIOUSLY BEEN UNATTAINABLE. 1839

ONE CONCLUSION FROM THIS PARAGRAPH IS
A. ATOMIC ENERGY IS OPERATING AT MAXIMUM CAPACITY.
B. ATOMIC ENERGY IS MORE POWERFUL THAN ANY OTHER FORM OF ENERGY.
*C. RADIATION COULD BE DANGEROUS TO THE BODY.
D. NONE OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE SIMPLE MACHINES BY IDENTIFYING THE NAMES AND EXAMPLES OF THE SIX SIMPLE MACHINES. %6□ 0096

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH OF THE FOLLOWING ITEMS WOULD BE CLASSIFIED AS A WEDGE0 0737
A. STAIRCASE
B. A CROWBAR
*C. A POCKET KNIFE
D. A DOORKNOB
E. NONE OF THE ABOVE

WHICH OF THE FOLLOWING ITEMS WOULD BE CLASSIFIED AS A LEVER0 0738
A. SHOVEL
B. WHEELBARROW

C. CROWBAR
*D. ALL OF THE ABOVE
F. NONE OF THE ABOVE

A STAIRWAY COULD BE CLASSIFIED AS WHICH OF THE FOLLOWING SIMPLE MACHINES? 0739
A. WEDGE
B. LEVER
*C. INCLINED PLANE
D. WHEEL AND AXLE

AN AUTOMOBILE JACK, A VISE, AND AIRPLANE PROPELLERS ARE ALL WHAT KIND OF SIMPLE MACHINE? 0740
A. WEDGE
B. LEVER
C. INCLINED PLANE
D. WHEEL AND AXLE
*F. SCREW
F. PULLEY

A DOORKNOB, SCREWDRIVER AND A PENCIL SHARPNER ARE ALL EXAMPLES OF WHAT KIND OF SIMPLE MACHINE? 0741
A. WEDGE
B. LEVER
C. INCLN
C. INCLINED PLANE
*D. WHEEL AND AXLE
E. SCREW
F. PULLEY

WHAT SIMPLE MACHINE COULD BE USED TO RAISE A FLAG OR LIFT HEAVY LOADS? 0742
A. SCREW
*B. PULLEY
C. INCLINED PLANE
D. WEDGE
E. LEVER

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE SIMPLE MACHINES BY IDENTIFYING WHICH MACHINE WOULD BEST ACCOMPLISH A GIVEN PROBLEMATIC SITUATION. %11¤ 0097

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

BILL'S PEN CARTRIDGE IS CAUGHT IN THE BARREL OF THE PEN. IN USING A COMPASS POINT TO EXTRACT IT, HE IS EMPLOYING 0612
A. A SIMPLE MACHINE.
B. A WEDGE.
C. A LEVER.
*D. ALL OF THE ABOVE
F. NONE OF THE ABOVE

TOM USES A WHEELBARREL TO MOVE SAND FOR A SANDBOX. HE WHEELS IT UP A RAMP TO FILL THE BOX. HE IS USING A 0613
*A. SECOND CLASS LEVER AND INCLINED PLANE.
B. FIRST CLASS LEVER AND SECOND CLASS LEVER.
C. THRID CLASS LEVER.
D. NONE OF THE ABOVE

JANE TURNED THE DOORKNOB AND DISCOVERED THE SPIRAL STAIRCASE WHICH SHE BEGAN TO DESCEND. SHE WAS USING A 0614
A. FIRST CLASS LEVER AND WEDGE.
*B. WHEEL AND AXLE, AND AN INCLINED PLANE.
C. COMPLEX MACHINE.
D. NONE OF THE ABOVE

DON USED THE BLOCK AND TACKLE ON HIS TOW TRUCK TO PULL THE TRUNK UP THE RAMP TO THE TRUCK. HE USED A 0615
A. SINGLE PULLEY.
B. FRICTIONLESS WHEEL.
C. SIMPLE MACHINE.
*D. COMPLEX MACHINE.

****

WHEN BILL SITS 5 FEET FROM THE FULCRUM OF THE TEETER-TOTTER, HE DOES *NOT* BALANCE JIM WHO IS ON THE OTHER END AND 8 FEET FROM THE FULCRUM. IF BILL WANTS TO JUST BALANCE JIM, HE SHOULD 0605
A. MOVE CLOSER TO THE FULCRUM.
B. EMPTY HIS POCKETS.
C. HOLD HIS LITTLE BROTHER IN FRONT OF HIM.
*D. NONE OF THE ABOVE IS CONCLUSIVE.

WHEN SALLY SITS AT THE END OF THE TEETER-TOTTER, HER FEET JUST TOUCH THE GROUND. HER FRIEND, JILL, CLIMBS TO THE OPPOSITE END BUT *CANNOT* LIFT SALLY. THIS IS BECAUSE 0606
A. SALLY WEIGHS MORE THAN JILL.
B. THE FULCRUM IS NOT IN THE MIDDLE.
C. THE FULCRUM IS CLOSER TO SALLY.
D. THE FULCRUM IS CLOSER TO JILL.
*F. NONE OF THE ABOVE IS CONCLUSIVE.

A SIMPLE PULLEY IS USED TO RAISE A FLAG. THE FLAG WEIGHS 3 1/2 POUNDS AND WILL BE RAISED 100 FEET. YOU MUST 0607
A. EXERT AN EFFORT OF 3 1/2 POUNDS.
B. EXERT AN EFFORT THROUGH 100 FEET.
C. USE A SINGLE FIXED PULLEY.
D. APPLY THE LAW OF THE LEVER.
*F. DO ALL OF THE ABOVE.

JOHN USES A TWO-STRAND PULLEY TO LIFT A 600 GRAM WEIGHT 100 CENTIMETERS. HE CALCULATES HE WILL NEED TO USE AN EFFORT OF 0608
A. 600 GRAMS.
*B. 300 GRAMS.
C. 100 GRAMS.
D. 6 GRAMS.
E. NONE OF THESE

JOHN CHANGES TO A THREE-STRAND PULLEY. TO LIFT 600 GRAMS THROUGH 100 CENTIMETERS, HE FIGURES HE WILL USE AN EFFORT OF 0609
A. 600 GRAMS.
B. 300 GRAMS.
*C. 200 GRAMS.
D. 6 GRAMS.
E. NONE OF THESE

WHEN JOHN ACTUALLY USES A TWO STRAND PULLEY TO LIFT 600 GRAMS, HE FINDS HE WILL NEED A GREATER EFFORT THAN HE CALCULATED BECAUSE 0610

A. THE LAW OF THE LEVER DOES NOT APPLY.
B. THE LAW OF THE LEVER IS NOT EXACT.
C. HE NEEDS TRAINING IN USING PULLEYS.
*D. HE IS ACTUALLY OVERCOMING MORE THAN 600 GRAMS OF RESISTANCE.
F. NONE OF THE ABOVE

IF JOHN DOUBLES THE DISTANCE THROUGH WHICH HE LIFTS A 600 GRAM WEIGHT WHILE USING A THREE-STRAND PULLEY, HE SHOULD EXPECT THE EFFORT REQUIRED TO 0611
A. BE DOUBLED.
B. BE REDUCED BY ONE-HALF.
C. BECOME ONE-THIRD AS MUCH.
*D. REMAIN THE SAME.
F. NONE OF THE ABOVE

****

THE STUDENT WILL DISTINGUISH BETWEEN ACTUAL MECHANICAL ADVANTAGE AND IDEAL MECHANICAL ADVANTAGE BY SELECTING FACTORS INVOLVED IN THE CALCULATION OF EACH. %4R 0098

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE IDEAL MECHANICAL ADVANTAGE OF A MACHINE HAS THE RELATIONSHIP TO THE ACTUAL MECHANICAL ADVANTAGE OF BEING 0589
A. LESS.
B. EQUAL.
*C. GREATER.
D. NO RELIABLE RELATIONSHIP.

THE IDEAL MECHANICAL ADVANTAGE CAN BE CALCULATED BY FINDING THE RATIO OF 0590
A. WORK PUT IN/WORK DONE.
B. EFFORT MADE/RESISTANCE OVERCOME.
C. RESISTANCE OVERCOME/EFFORT MADE.
*D. DISTANCE EFFORT MOVES/DISTANCE RESISTANCE MOVES.
F. NONE OF THE ABOVE

THE ACTUAL MECHANICAL ADVANTAGE CAN BE CALCULATED BY FINDING THE RATIO OF 0591
A. WORK DONE/EFFORT MADE.
B. EFFORT MADE/RESISTANCE OVERCOME.
*C. RESISTANCE OVERCOME/EFFORT MADE.
D. EFFICIENCY/IDEAL MECHANICAL ADVANTAGE.
F. NONE OF THE ABOVE

WHICH OF THE FOLLOWING IS *NOT* INVOLVED IN COMPUTING IDEAL MECHANICAL ADVANTAGE0 0592
*A. FRICTION
B. RESISTANCE DISTANCE
C. EFFORT DISTANCE
D. MACHINES
F. NONE OF THE ABOVE

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE FUNCTIONS OF THE SIX SIMPLE MACHINES BY IDENTIFYING EXAMPLES OF EACH IN OPERATION. %7R 0099

MATCH THE SIMPLE MACHINE WITH ITS EXAMPLE
A. INCLINED PLANE
B. LEVER
C. PULLEY
D. SCREW
E. WEDGE
F. WHEEL AND AXLE

RAMP	*A	1734
AXE	*E	1735
BOTTLE OPENER	*B	1736
WHEELBARROW	*F AND *B	1737
AUTO JACK	*D AND *B	1738
CAN OPENER	*B AND *E	1739
CONVEYOR BELT	*C AND *F	1740

****

MEASUREMENT

THE STUDENT WILL DEMONSTRATE HIS ABILITY TO DISTINGUISH BETWEEN MEASUREMENTS OF MASS AND VOLUME BY IDENTIFYING WHICH MEASUREMENT IS APPLICABLE TO A LIST OF EXAMPLES. %10□ 0180

IN THE ITEMS LISTED BELOW, SOME ARE MEASUREMENTS OF MASS, SOME ARE VOLUME AND SOME ARE INDEFINITE. CIRCLE
A IF THE ITEM MEASURES MASS
B IF THE ITEM MEASURES VOLUME
C IF THE ITEM REPRESENTS AN INDEFINITE MEASUREMENT.

A*	B	C	2	1/2 POUNDS OF SAUSAGE	1949
A	B	C*	2	MEDIUM SIZED APPLES	1950
A	B*	C	3	CUBIC CENTIMETERS OF ALCOHOL	1951
A*	B	C	4	GRAMS OF CUPRIC OXIDE	1952
A	B	C*	4	DROPS OF VANILLA	1953
A	B*	C	4	QUARTS OF MILK	1954
A	B	C*	3	SLICES OF CHEESE	1955
A	B*	C	3	1/2 CUPS OF SUGAR	1956
A*	B	C	5	TONS OF STONE	1957
A	B	C*	3	PIECES OF PIE	1958

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE BASIC UNITS OF THE METRIC SYSTEM BY MATCHING THE TERMS WITH THEIR DEFINITION. %5□ 0101

MATCH THE TERM WITH ITS CORRECT DEFINITION. 5

METER 52
A. THE AMOUNT OF HEAT NEEDED TO RAISE THE TEMPERATURE OF ONE GRAM OF WATER 1 ^{0} C.
*B. 1/10,000,000 OF A QUADRANT
C. THE AMOUNT OF ENERGY IN A SOUND WAVE
D. THE VOLUME OCCUPIED BY 1 KILOGRAM OF WATER AT A CERTAIN TEMPERATURE AND PRESSURE
E. THE WEIGHT OF 1 CUBIC CENTIMETER OF WATER AT 4 ^{0} C.

LITER 53
A. THE AMOUNT OF HEAT NEEDED TO RAISE THE TEMPERATURE OF ONE GRAM OF WATER 1 ^{0} C.
B. 1/10,000,000 OF A QUADRANT
C. THE AMOUNT OF ENERGY IN A SOUND WAVE
*D. THE VOLUME OCCUPIED BY 1 KILOGRAM OF WATER AT A CERTAIN TEMPERATURE AND PRESSURE
E. THE WEIGHT OF 1 CUBIC CENTIMETER OF WATER AT 4 ^{0} C.

GRAM 54
A. THE AMOUNT OF HEAT NEEDED TO RAISE THE TEMPERATURE OF ONE GRAM OF WATER 1 ^{0} C.
B. 1/10,000,000 OF A QUADRANT
C. THE AMOUNT OF ENERGY IN A SOUND WAVE
D. THE VOLUME OCCUPIED BY 1 KILOGRAM OF WATER AT A CERTAIN TEMPERATURE AND PRESSURE
*E. THE WEIGHT OF 1 CUBIC CENTIMETER OF WATER AT 4 ^{0} C.

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF PREFIX VALUES IN THE METRIC SYSTEM BY IDENTIFYING NUMERAL VALUES FOR GIVEN METRIC MEASURES. %43□ 0102

SELECT THE ANSWER THAT IDENTIFIES THE EQUALITY. NOTE-# MEANS EQUALS 0002

35 METERS # MILLIMETERS 18
A. 350
B. 3500
*C. 35000
D. 3.035

27 METERS # CENTIMETERS 19
A. 2.7
B. 0.27
C. 270
*D. 2700

5.1 METERS # DECIMETERS 20
*A. 51

B. 0.51
C. 5100
D. 51000

123 METERS # DEKAMETERS 21
A. 1230
*B. 12.3
C. 1.23
D. 12300

23.7 METERS # HECTOMETERS 22
A. 2370
B. 2.37
*C. 0.237
D. 237

328 METERS # KILOMETERS 23
A. 32.8
B. 328000
*C. 0.328
D. 3.28

83 LITERS # DECILITERS 24
*A. 830
B. 8.3
C. .83
D. 8300

9.1 LITERS # CENTILITERS 25
A. 0.91
B. 0.091
*C. 91
D. 910

135 LITERS # MILLILITERS 26
*A. 135000
B. 13500
C. 3.135
D. 1350

372 LITERS # DEKALITERS 27
A. 3720
B. 37200
*C. 37.2
D. 3.72

56 LITERS # HECTOLITERS 28
A. 5.6
*B. 0.56
C. .056
D. 5600

4.3 LITERS # KILOLITERS 29
*A. 0.0043
B. 0.043
C. 4300
D. 0.43

365 GRAMS # DECIGRAMS 30
A. 36.5
B. 3.65

*C. 3650
D. 36500

84.95 GRAMS # CENTIGRAMS 31
A. 849.5
B. 0.8495
C. 8.495
*D. 8495

1.9 GRAMS # MILLIGRAMS 32
*A. 1900
B. 190
C. 0.0019
D. 0.019

631 GRAMS # DEKAGRAMS 33
A. 6.31
B. 6310
*C. 63.1
D. 63100

37.3 GRAMS # HECTOGRAMS 34
A. 3.73
B. 3730
C. 373
*D. 0.373

13 GRAMS # KILOGRAMS 35
*A. 0.013
B. 1.3
C. 0.13
D. 13000

125 DEKAMETERS # DECIMETERS 36
A. 12.5
B. 1250
*C. 12500
D. 125000

24 HECTOGRAMS # CENTIGRAMS 37
*A. 240,000
B. 2400
C. 2,400,000
D. 0.0024

4.95 KILOGRAMS # MILLIGRAMS 38
A. 495,000,000
*B. 4,950,000
C. 49500
D. 0.00495

8.76 MILLIMETERS # DEKAMETERS 39
A. 0.0876
B. 0.0876
*C. 0.000876
D. 876.000

237 CENTILITERS # KILOLITERS 40
*A. 0.00237
B. 0.00000237
C. 23.7

D. 2370

999.111 DEKALITERS # KILOLITERS 41
A. .0999111
B. 9991.11
C. 99911.1
*D. 9.99111

796.31 DECIGRAMS # KILOGRAMS 42
*A. 0.079631
B. 0.79631
C. 0.0000079631
D. 7.9631

1234.5 MILLIMETERS # KILOMETERS 43
A. 1,234,500,000
B. 123450
C. 1.2345
*D. 0.0012345

89.7 DEKAMETERS # MILLIMETERS 44
A. 8970
*B. 897,000
C. 0.0897
D. 0.897

1.256 HECTOLITERS # CENTILITERS 45
A. 12,560,000
B. 125600
*C. 12560
D. 1256

****

MATCH THE MEASUREMENT WITH ITS CORRESPONDING METRIC PREFIX. 0001

1/10 OF A UNIT 2
A. MICRO
*B. DECI
C. DEKA
D. MILLI
E. CENTI

1/100 OF A UNIT 3
A. MICRO
B. DECI
C. DEKA
D. MILLI
*E. CENTI

1/1000 OF A UNIT 4
A. MICRO
B. DECI
C. DEKA
*D. MILLI
E. CENTI

1/1,000,000 OF A UNIT 5
*A. MICRO
B. DECI

C. DEKA
D. MILLI
E. CENTI

1 6
1/10 OF A UNIT
A. MICRO
*B. DECI
C. DEKA
D. MILLI
E. CENTI

2 7
1/10 OF A UNIT
A. MICRO
B. DECI
C. DEKA
D. MILLI
*E. CENTI

3 8
1/10 OF A UNIT
A. MICRO
B. DECI
C. DEKA
*D. MILLI
E. CENTI

6 9
1/10 OF A UNIT
*A. MICRO
B. DECI
C. DEKA
D. MILLI
E. CENTI

10X THE UNIT 10
A. KILO
B. MEGA
C. DEKA
*D. DECI
E. HECTO

100X THE UNIT 11
A. KILO
B. MEGA
C. DEKA
D. DECI
*E. HECTO

1,000X THE UNIT 12
*A. KILO
B. MEGA
C. DEKA
D. DECI
E. HECTO

1,000,000X THE UNIT 13
A. KILO
*B. MEGA
C. DEKA

D. DECI
F. HECTO

1 14

10 X THE UNIT
A. KILO
B. MEGA
C. DEKA
*D. DECI
F. HECTO

3 16

10 X THE UNIT
*A. KILO
B. MEGA
C. DEKA
D. DECI
E. HECTO

6 17

10 X THE UNIT
A. KILO
*B. MEGA
C. DEKA
D. DECI
F. HECTO

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF METRIC VALUES BY IDENTIFYING EQUIVALENT ENGLISH AND METRIC MEASURES. %12¤ 0103

MATCH THE ENGLISH AND METRIC EQUIVALENT. 6

2.54 CENTIMETERS 55
A. 10 MILES
B. 0.621 MILES
C. 39.37 INCHES
*D. 1 INCH
F. 3 FEET

1 METER 56
A. 10 MILES
B. 0.621 MILES
*C. 39.37 INCHES
D. 1 INCH
E. 3 FEET

1 KILOMETER 57
A. 10 MILES
*B. 0.621 MILES
C. 39.37 INCHES
D. 1 INCH
E. 3 FEET

1 KILOGRAM 58
*A. 2.2 LBS. %APPROX.¤
B. 0.394 LBS. %APPROX.¤
C. 0.035 OZ. %APPROX.¤
D. 0.621 QUARTS %APPROX.¤

E. 1.06 QUARTS %APPROX.□

1 LITER 59
A. 2.2 LBS. %APPROX.□
B. 0.394 LBS. %APPROX.□
C. 0.035 OZ. %APPROX.□
D. 0.621 QUARTS %APPROX.□
*E. 1.06 QUARTS %APPROX.□

1 GRAM 60
A. 2.2 LBS. %APPROX.□
B. 0.394 LBS. %APPROX.□
*C. 0.035 OZ. %APPROX.□
D. 0.621 QUARTS %APPROX.□
E. 1036 QUARTS %APPROX.□

3 INCHES 61
A. 20 METERS
B. 2 METERS
C. 10 KILOMETERS
D. 1 KILOMETER
*F. 7.62 CM

6.21 MILES 62
A. 20 METERS
B. 2 METERS
*C. 10 KILOMETERS
D. 1 KILOMETER
F. 7.62 CM

78.74 63
A. 20 METERS
*B. 2 METERS
C. 10 KILOMETERS
D. 1 KILOMETER
E. 7.62 CM

6.6 LBS. 64
A. 2 LITERS %APPROX.□
*B. 3 KILOGRAMS %APPROX.□
C. 2 KILOLITER %APPROX.□
D. 100 GRAMS %APPROX.□
E. 3 GRAMS %APPROX.□

3.5 OZ. 65
A. 2 LITERS %APPROX.□
B. 3 KILOGRAMS %APPROX.□
C. 2 KILOLITER %APPROX.□
*D. 100 GRAMS %APPROX.□
E. 3 GRAMS %APPROX.□

2.12 QUARTS 66
*A. 2 LITERS %APPROX.□
B. 3 KILOGRAMS %APPROX.□
C. 2 KILOLITER %APPROX.□
D. 100 GRAMS %APPROX.□
E. 3 GRAMS %APPROX.□

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF METRIC UNITS OF MEASURE BY IDENTIFYING THE UNIT THAT WOULD BEST DESCRIBE A DISTANCE OR QUANTITY IN A GIVEN HYPOTHETICAL SITUATION. %10□ 0104

SELECT THE METRIC UNIT OF MEASURE THAT WOULD BEST IDENTIFY A SITUATION. 0007

THE DISTANCE FROM MILWAUKEE TO CHICAGO WOULD BE RECORDED IN WHICH METRIC UNIT0 0069
A. LITERS
*B. KILOMETERS
C. MILLIMETERS
D. KILOGRAMS

THE LENGTH OF THIS ROOM WOULD BE RECORDED IN WHICH METRIC UNIT0 0070
*A. METERS
B. LITERS
C. KILOMETERS
D. MILLIMETERS

THE LENGTH OF THIS PAPER WOULD BE RECORDED IN WHICH METRIC UNIT0 0071
A. METERS
B. KILOMETERS
*C. CENTIMETERS
D. MILLIGRAMS

THE HEIGHT OF A TYPED LETTER WOULD BE RECORDED IN WHICH METRIC UNIT0 0072
A. METERS
B. KILOMETERS
*C. MILLIMETERS
D. LITERS

THE WEIGHT OF THE PENCIL YOU ARE USING WOULD BE RECORDED IN WHICH METRIC UNIT0 0073
A. LITERS
*B. GRAMS
C. KILOGRAMS
D. METERS

YOUR WEIGHT WOULD BE RECORDED IN WHICH METRIC UNIT0 0074
A. GRAMS
*B. KILOGRAMS
C. MILLIGRAMS
D. LITERS
E. METERS

THE AMOUNT OF WATER USED IN A HOME IN ONE DAY WOULD BE RECORDED IN WHICH METRIC UNIT0 0075
A. METERS
*B. LITERS
C. GRAMS
D. MILLILITERS

THE AMOUNT OF BLOOD IN THE BODY WOULD BE RECORDED IN WHICH METRIC UNIT0 0076
A. METERS
B. MILLILITERS
*C. LITERS
D. MILLILITERS

THE VOLUME OF A JUICE GLASS WOULD BE RECORDED IN WHICH METRIC UNITO 0077

*A. MILLILITERS
B. KILOLITERS
C. GRAMS
D. MILLIGRAMS

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF METRIC QUANTITIES BY IDENTIFYING NUMERICAL VALUES WHICH ARE EXPRESSED IN DIFFERENT METRIC UNITS. %10□ 0105

CONVERT ALL UNITS OF MEASURE TO THE LARGEST UNIT AND SELECT THE CORRECT ANSWER. 0003

32 CENTIMETERS & 16 DECIMETERS & 2 METERS EQUAL 0046

*A. 3.92 METERS
B. 50 METERS
C. 500 DECIMETERS
D. 39.2 DECIMETERS
E. 392 CENTIMETERS

253 CENTIGRAMS & 7 KILOGRAMS & 11 GRAMS EQUAL 0047

A. 271000 GRAMS
B. 271 KILOGRAMS
*C. 7.01353 KILOGRAMS
D. 7.00011253 KILOGRAMS
E. 7013.53 GRAMS

24 DEKAGRAMS - 972 DECIGRAMS EQUAL 48

A. 996 DEKAGRAMS
B. 996 DECIGRAMS
C. 1428 DECIGRAMS
*D. 14.28 DEKAGRAMS

CONVERT ALL UNITS OF MEASURE TO THE SMALLEST UNIT AND SELECT THE CORRECT ANSWER. 0004

234 MILLILITERS & 38.76 MILLILITERS & 9 DECILITERS EQUALS 0049

A. 28.176 DECILITERS
B. 2817.6 MILLILITERS
C. 4010 MILLILITERS
*D. 1172.76 MILLILITERS
E. 11.7276 DECILITERS

38 GRAMS & 71 CENTIGRAMS - 105 MILLIGRAMS EQUALS 0050

A. 38805 MILLIGRAMS
B. 4 GRAMS
*C. 38605 MILLIGRAMS
D. 214 GRAMS
E. 37185 MILLIGRAMS

10 KILOMETERS - 12.5 HECTOMETERS - 31 METERS EQUALS 0051

A. 12.531 KILOMETERS
B. 53.5 KILOMETERS
C. 43.5 METERS
D. -2531 METERS
E. 8719 METERS

****

SELECT THE ANSWER THAT IDENTIFIES THE EQUALITY. 7

METRIC TON EQUALS 67

*A. 10^6 GRAMS

B. $1/10^6$ GRAMS

C. $1/10^6$ METER

D. 10^6 METERS

1 MICRON EQUALS 68

A. 10^6 GRAMS

B. $1/10^6$ GRAMS

*C. $1/10^6$ METERS

D. 10^6 METERS

****

THE STUDENT WILL DEMONSTRATE HIS COMPREHENSION OF MEASUREMENT TERMS BY IDENTIFYING THE TERM UNIT OR INSTRUMENT UTILIZED WHEN A CONDITION OF MEASUREMENT IS STATED. %19¤ 0106

A UNIT OF MEASUREMENT USED TO MEASURE STRAIGHT LINE DISTANCE IS A 1062

A. INCHES SQUARED

*B. MM

C. CM^3

AN EQUAL ARM BALANCE MEASURES 1063

*A. MASS.

B. VOLUME.

C. AREA.

D. LENGTH.

THE AMOUNT OF SPACE A BODY TAKES UP IS ITS 1064

A. AREA.

B. LINEAR SIZE.

C. HEIGHT.

*D. VOLUME.

THE SIZE OF A SURFACE MAY ALWAYS BE CALLED ITS 1065

*A. AREA.

B. LINEAR SIZE.

C. HEIGHT.

D. VOLUME.

MASS IS EXPRESSED IN 1066

A. DEGREES.

*B. KILOGRAMS.

C. CUBIC CENTIMETERS$

D. NEWTON-METERS.

MASS IS 1057
*A. THE QUANTITY OF MATTER THAT IS IN A SUBSTANCE.
B. THE SIZE OF AN OBJECT.
C. THE QUANTITY OF MATTER PER UNIT VOLUME.
D. THE TOTAL NUMBER OF CM^3 IN A SUBSTANCE.

****

TOOLS & TECHNIQUES

THE STUDENT WILL APPLY HIS KNOWLEDGE OF LABORATORY SAFETY PROCEDURES BY IDENTIFYING THE DESCRIPTION THAT REPRESENTS AN INDIVIDUALS PROPER BEHAVIOR IN LABORATORY SITUATIONS. %6□ 0107

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

IF YOU ACCIDENTLY SPILLED SOME ACID, YOU WOULD 0832
A. CLEAN IT UP IMMEDIATELY WITH PAPER TOWELS.
*B. NEUTRALIZE IT WITH AMMONIUM HYDROXIDE.
C. DILUTE IT AT ONCE WITH WATER.
D. NONE OF THE ABOVE

WHEN POURING WATER AND ACID TOGETHER, YOU ALWAYS 0833
*A. POUR ACID INTO WATER.
B. POUR WATER INTO ACID.
C. POUR THEM BOTH AT THE SAME TIME.
D. ANY OF THE ABOVE WOULD BE SAFE.

WHEN USING A HEATED GENERATOR BOTTLE AND COLLECTING BY WATER DISPLACEMENT IT IS NECESSARY TO 0834
A. REMOVE THE HEAT SOURCE BEFORE REMOVING THE DELIVERY TUBE.
B. BLOCK OFF THE DELIVERY TUBE THEN REMOVE FROM WATER.
*C. REMOVE THE DELIVERY TUBE BEFORE YOU REMOVE THE HEAT.
D. NONE OF THE ABOVE PROCEDURES

WHEN HEATING A LIQUID IN A TEST TUBE, ALWAYS 0835
A. POINT THE TUBE STRAIGHT UP.
B. POINT THE TUBE TOWARD YOURSELF.
C. BE SURE TO STOPPER THE TUBE FIRST.
*D. AIM THE TUBE TO WHERE NO ONE IS WORKING.
E. NONE OF THE ABOVE

IF YOU SHOULD GET ACID ON YOUR HAND, YOU SHOULD 0836
A. WIPE IT OFF WITH A TOWEL.
*B. RINSE IT OFF WITH WATER.
C. NEUTRALIZE IT WITH AMMONIUM HYDROXIDE.
D. COVER THE AREA WITH SODIUM BICARBONATE.
E. NONE OF THE ABOVE

IF YOU FOUND AN UNKNOWN LIQUID SPILLED ON A LAB TABLE, WHAT WOULD YOU DO FIRSTO 0837
*A. TEST IT WITH LITMUS PAPER
B. POUR ON AMMONIUM HYDROXIDE
C. RINSE IT OFF WITH WATER
D. NONE OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF THE RULES FOR CONVERSION OF LARGE AND SMALL NUMBERS TO STANDARD SCIENTIFIC NOTATION BY SELECTING NUMBERS CORRECTLY EXPRESSED IN SCIENTIFIC NOTATION. %6¤ 0108

SELECT THE ANSWER THAT IDENTIFIES THE EQUALITY. 2

THE NUMBER 46,200,000 CAN BE EXPRESSED IN STANDARD SCIENTIFIC NOTATION BY USING WHICH ONE OF THE FOLLOWING. 0700

*A. 462×10^{5}

B. 46.2×10^{5}

C. 4.62×10^{8}

D. NONE OF THE ABOVE

EXPRESSED IN STANDARD SCIENTIFIC NOTATION, THE NUMBER 100,000 WOULD LOOK LIKE WHICH ONE OF THE FOLLOWING. 0701

A. 10.0×10^{4}

B. 1.00×10^{5}

*C. 1.0×10^{5}

THE NUMBER 105,000,000 CAN BE CONVERTED TO WHICH OF THE FOLLOWING. 0702

A. 10.5×10^{6}

B. 10.5×10^{7}

C. 1.5×10^{8}

*D. NONE OF THE ABOVE

ALPHA CENTAURI IS APPROXIMATELY 2.58×10^{10} MILES FROM THE EARTH WHEN EXPRESSED IN STANDARD SCIENTIFIC NOTATION. EXPRESS THIS AS A WHOLE NUMBER. 0704

A. 258,000,000,000,000

B. 2,580,000,000,000

*C. 25,800,000,000

D. NONE OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE COMPOUND MICROSCOPE BY IDENTIFYING THE DIFFERENT PARTS AND THEIR USES. %29¤ 0109

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

THE HEAVY BOTTOM PART OF THE MICROSCOPE IS CALLED 0480

A. THE STAGE.

*B. THE BASE.

C. THE ARM.

D. THE EYEPIECE.

THE BASE OF THE MICROSCOPE IS 481
*A. THE HEAVY BOTTOM PART.
B. THE PART ONE LOOKS THROUGH.
C. THE PART THAT HOLDS THE LENSES.
D. THE PART ON WHICH SLIDES REST.

THE EYEPIECE OF THE MICROSCOPE IS THE PART THAT 0482
A. CONTROLS THE AMOUNT OF LIGHT.
B. HOLDS THE LENSES.
*C. ONE LOOKS THROUGH.
D. SUPPORTS THE TUBE.

THE PART OF THE MICROSCOPE THAT ONE LOOKS THROUGH IS CALLED 0483
A. THE NOSE PIECE.
B. THE TUBE.
C. THE LENS.
*D. THE EYEPIECE.

THE PART OF THE MICROSCOPE THAT CONTROLS THE AMOUNT OF LIGHT IS CALLED 0484
A. THE NOSEPIECE.
B. THE EYEPIECE.
*C. THE DIAPHRAGM ADJUSTMENT.
D. THE COARSE ADJUSTMENT.

THE FUNCTION OF DIAPHRAGM ADJUSTMENT OF THE MICROSCOPE IS 0485
A. TO RAISE THE OBJECTIVE LENSES.
*B. TO CONTROL THE AMOUNT OF LIGHT.
C. TO MOVE THE EYEPIECE.
D. TO FOCUS THE LENS.

THE PURPOSE OF THE MIRROR IS 486
*A. TO REFLECT LIGHT INTO THE BARREL OF THE MICROSCOPE.
B. TO CUT DOWN ON THE LIGHT ENTERING THE MICROSCOPE.
C. TO INCREASE THE SIZE OF MATERIAL ON SLIDES.
D. TO DECREASE THE SIZE OF MATERIAL ON SLIDES.

THE OBJECTIVE LENSES OF THE MICROSCOPE ARE MOUNTED IN 0487
A. THE EYEPIECE.
*B. THE NOSEPIECE.
C. THE STAGE.
D. THE ARM.

MATCH THE WORD WITH ITS CORRESPONDING MICROSCOPE PART. 0016

OCULAR 488
A. LENS
B. BARREL
*C. EYEPIECE
D. DIAPHRAGM

OBJECTIVE 489
*A. LENS
B. BARREL
C. EYEPIECE
D. DIAPHRAGM

TUBE 490
A. LENS
B. BARREL

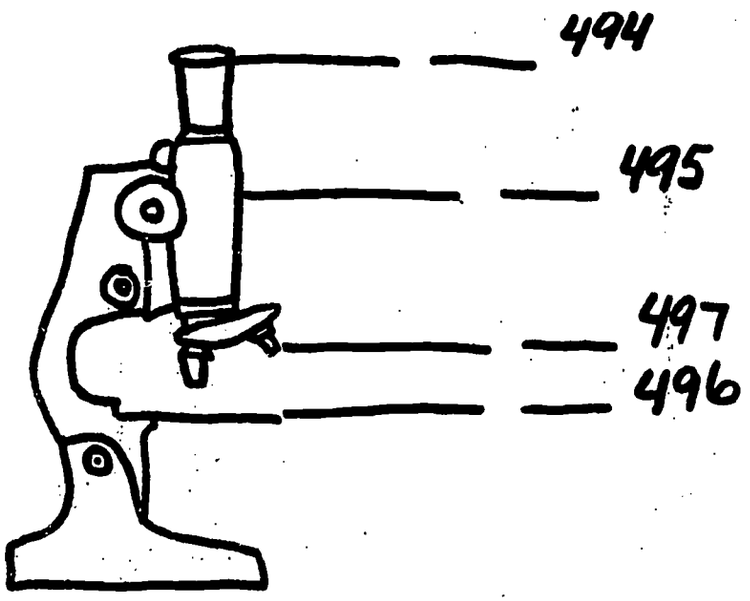
C. EYEPIECE
D. DIAPHRAGM

THE PART OF THE MICROSCOPE USED TO MAKE THE SPECIMEN VISIBLE IS CALLED 0491
A. THE FINE ADJUSTMENT.
*B. THE COARSE ADJUSTMENT.
C. THE DIAPHRAGM ADJUSTMENT.
D. THE BASE ADJUSTMENT.

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

TO CORRECT THE FOCUS OF A SPECIMEN ONE WOULD USE 0492
A. THE BASE ADJUSTMENT.
B. THE DIAPHRAGM ADJUSTMENT.
*C. THE FINE ADJUSTMENT.
D. THE COARSE ADJUSTMENT.

THE POINT AT WHICH A CLEAR IMAGE IS PRODUCED IS CALLED 0493
A. MAGNIFICATION.
*B. FOCUS.
C. OBJECTIVE.



IN THE SPACE PROVIDED PLACE THE LETTER THAT CORRESPONDS TO THE STRUCTURE IT IDENTIFIES. 0009

A. TUBE
B. NOSEPIECE
C. BASE
D. OBJECTIVE
*F. EYEPIECE

49

*A. TUBE
B. NOSEPIECE
C. BASE
D. OBJECTIVE
E. EYEPIECE

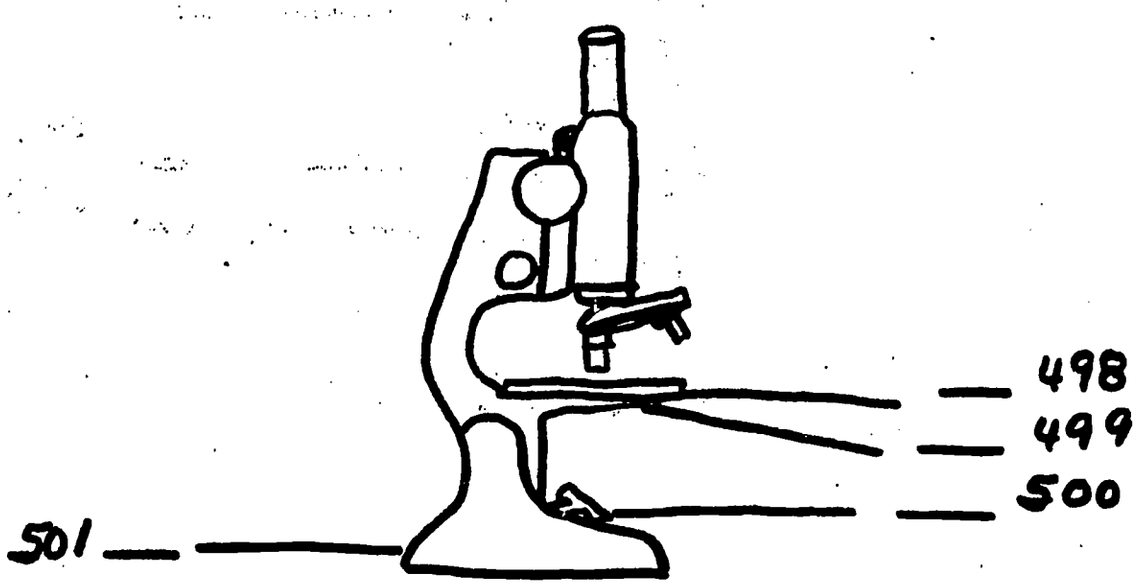
495

A. TUBE
*B. STAGE
C. BASE
D. OBJECTIVE
E. EYEPIECE

496

A. TUBE
B. NOSEPIECE
C. BASE
*D. OBJECTIVE
E. EYEPIECE

497



A. MIRROR
B. OBJECTIVE
C. BASE
*D. STAGE
F. DIAPHRAGM

498

A. MIRROR
B. OBJECTIVE
C. BASE
D. STAGE
*E. DIAPHRAGM

499

*A. MIRROR
B. OBJECTIVE
C. BASE
D. STAGE
E. DIAPHRAGM

500

A. MIRROR
B. OBJECTIVE
*C. BASE
D. STAGE
E. DIAPHRAGM

501

THE TOTAL MAGNIFICATION OF THE MICROSCOPE IS DETERMINED BY
A. ADDING THE MAGNIFICATIONS OF THE OCCULAR AND THE EYEPIECE.
*B. MULTIPLYING THE MAGNIFICATIONS OF THE EYEPIECE AND THE OBJECTIVE.
C. ADDING THE MAGNIFICATIONS OF THE EYEPIECE AND THE OBJECTIVE.
D. MULTIPLYING THE MAGNIFICATIONS OF THE OCULAR AND THE EYEPIECE.

0505

THE MARKING *10X* ON THE EYEPIECE MEANS THAT IT
A. MAGNIFIES 100 TIMES.
*B. MAGNIFIES 10 TIMES.
C. IS 10 CENTIMETERS LONG.

0506

THE TOTAL MAGNIFICATION OF A MICROSCOPE WITH AN EYEPIECE OF *10X* AND A LOW-POWER OBJECTIVE OF *10X* IS
A. 10.
*B. 100.
C. 1000.
D. 10000.

0507
0507

A SLIDE IS HELD IN PLACE ON THE STAGE OF THE MICROSCOPE BY
A. ARMS.
B. BASES.
*C. CLIPS.
D. DIAPHRAGMS.

0508

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE SCIENTIFIC METHOD FOR PROBLEM SOLVING BY IDENTIFYING THE CORRECT ORDER FOR THE PRINCIPLE STEPS. %7¤

0110

IDENTIFY THE STEPS OF THE SCIENTIFIC METHOD.

19

FORMULATE A HYPOTHESIS.

599

A. FIRST STEP
*B. SECOND STEP
C. THIRD STEP
D. FOURTH STEP
E. FIFTH STEP
F. NOT A STEP

IDENTIFY AND CLEARLY STATE A PROBLEM. 600
*A. FIRST STEP
B. SECOND STEP
C. THIRD STEP
D. FOURTH STEP
E. FIFTH STEP
F. NOT A STEP

DISTINGUISH BETWEEN A FACT AND JUDGMENT. 0601
A. FIRST STEP
B. SECOND STEP
C. THIRD STEP
D. FOURTH STEP
E. FIFTH STEP
*F. NOT A STEP

COLLECT AND ORGANIZE DATA. 602
A. FIRST STEP
B. SECOND STEP
C. THIRD STEP
*D. FOURTH STEP
E. FIFTH STEP
F. NOT A STEP

RECOGNIZE SIMILARITIES AND DIFFERENCES IN THE COMPONENTS OF THE ENVIRONMENT. 0603
A. FIRST STEP
B. SECOND STEP
C. THIRD STEP
D. FOURTH STEP
E. FIFTH STEP
*F. NOT A STEP

DRAW INFERENCES FROM DATA. 604
A. FIRST STEP
B. SECOND STEP
C. THIRD STEP
D . FOURTH STEP
*E. FIFTH STEP
F. NOT A STEP

****

THE STUDENT WILL DEMONSTRATE UNDERSTANDING OF FAHRENHEIT AND CENTIGRADE TEMPERATURE SCALES BY IDENTIFYING ANALOGOUS RELATIONSHIPS OF EACH. %4n 0111

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

STANDARDIZATION OF BOTH THE FAHRENHEIT AND CENTIGRADE THERMOMETERS DEPENDS ON THE PHYSICAL PROPERTIES OF 0579
A. AIR.
B. ALCOHOL.

IS OFF-CENTER TO THE RIGHT.
D. OILING THE MOVING PARTS.
E. MOVING THE RIDER ON RIGHT SIDE OF THE BEAM TO THE LEFT, IF THE POINTER IS OFF-CENTER TO THE RIGHT.

A STUDENT WEIGHS AN OBJECT ON AN EQUAL-ARM BALANCE. BY MISTAKE HE PLACES THE OBJECT HE IS WEIGHING ON THE RIGHT PAN. HE BALANCES THE OBJECT BY PLACING 23 BEADS ON THE LEFT PAN AND BY MOVING THE RIDER ON THE RIGHT BEAM TO .36 BEADS. THE MASS OF THE OBJECT COULD STILL BE CALCULATED AND WAS FOUND TO BE 1071
A. 23.36 BEADS.
B. 23.64 BEADS.
C. 22.36 BEADS.
D. 24.64 BEADS.
*E. 22.64 BEADS.

****

THE STUDENT CAN ANALYZE A PROBLEM SITUATION BY SELECTING A BASIC QUESTION FROM A SET OF QUESTIONS THAT NEEDS TO BE ANSWERED IN ORDER TO SOLVE THE PROBLEM SITUATION. %3¤ 0169

A STUDENT WANTED TO UNDERSTAND HOW HE STAYS UPRIGHT ON A BICYCLE. WHICH OF THE FOLLOWING STATED QUESTIONS IS THE MOST BASIC QUESTION TO BE ANSWERED. 1873
A. DOES THE SPINNING OF THE WHEELS HAVE ANYTHING TO DO WITH BALANCING ON A BIKE0
B. IS THE BIKE RIDER ON HIS BIKE LIKE A PERSON ON A SEE-SAW0
*C. WHEN ANYTHING IS BALANCED, IT IS BALANCED AGAINST SOMETHING ELSE. IF A BIKE RIDER BALANCES HIMSELF ON A BIKE, WHAT IS HE BALANCING AGAINST0
D. HOW DOES THE MOTION OF THE BIKE EFFECT A RIDERS ABILITY TO RIDE A BIKE0

IF THERE IS NO FILAMENT IN A NEON LIGHT, HOW CAN IT LIGHT UP0 WHICH OF THE FOLLOWING QUESTIONS IS THE MOST BASIC QUESTION TO BE ANSWERED0 1874
A. WHAT PARTS ARE USED IN A NEON LIGHT0
B. DOES THE COLOR OF LIGHT HAVE ANYTHING TO DO WITH THE OPERATION OF A NEON LIGHT0
*C. WHAT HAPPENS TO THE ELECTRICITY IN A NEON LIGHT0
D. IS THERE A SPECIAL SUBSTANCE AT THE END OF THE TUBE0

ONE OF THE SAFEST PLACES TO BE DURING AN ELECTRICAL STORM IS IN A CLOSED CAR. WHY0 WHICH OF THE FOLLOWING QUESTIONS IS THE MOST BASIC QUESTION TO BE ANSWERED0 1875
*A. WHY CAN,T THE ELECTRICITY IN A LIGHTNING BOLT REACH A PERSON INSIDE A CLOSED CAR0
B. WHY MUST THE CAR BE CLOSED0
C. WHAT INSULATION DOES THE CAR,S TIRES PROVIDE0
D. IF THE CAR WAS MADE COMPLETELY OUT OF METAL, WOULD THERE STILL BE TRUE0

****

THE STUDENT CAN ANALYZE A GENERALIZATION BY SELECTING FACTS WHICH DO NOT SUPPORT THE GENERALIZATION. %2¤ 0170

THE FASTER AN OBJECT MOVES THE GREATER THE FORCE OPERATING ON IT. 1876

WHICH OF THE FOLLOWING FACTS DOES NOT SUPPORT THE GENERALIZATION.
A. A JET FLIES FASTER AND FASTER AS MORE POWER IS GENERATED.
B. A CAR GOES FASTER AND FASTER AS ONE PUSHES DOWN ON THE GAS PEDAL.
*C. A CAR GOING DOWN A MOUNTAIN GOES FASTER AND FASTER AS THE DRIVER PUSHES THE GAS PEDAL TO THE FLOOR FOR A SHORT PERIOD OF TIME EVERY 10 SECONDS.
D. A BIKE TRAVELS FASTER AND FASTER AS THE RIDER PEDALS FASTER AND FASTER.

WHAT GOES UP MUST COME DOWN. DOWN WILL BE DEFINED AS TOWARD THE CENTER OF THE EARTH. WHICH OF THE FOLLOWING FACTS DO NOT SUPPORT THE GENERALIZATION? 1877
A. A BALL THROWN UP COMES DOWN.
B. AN AIRPLANE TAKES OFF AND LANDS.
*C. A SPACECRAFT HAS LANDED ON THE MOON.
D. RAIN COMES DOWN AND WATER GOES UP.

****

THE STUDENT CAN SHOW HIS KNOWLEDGE OF FRACTIONAL CRYSTALLIZATION BY IDENTIFYING ITS DEFINITION. %2□ 0171

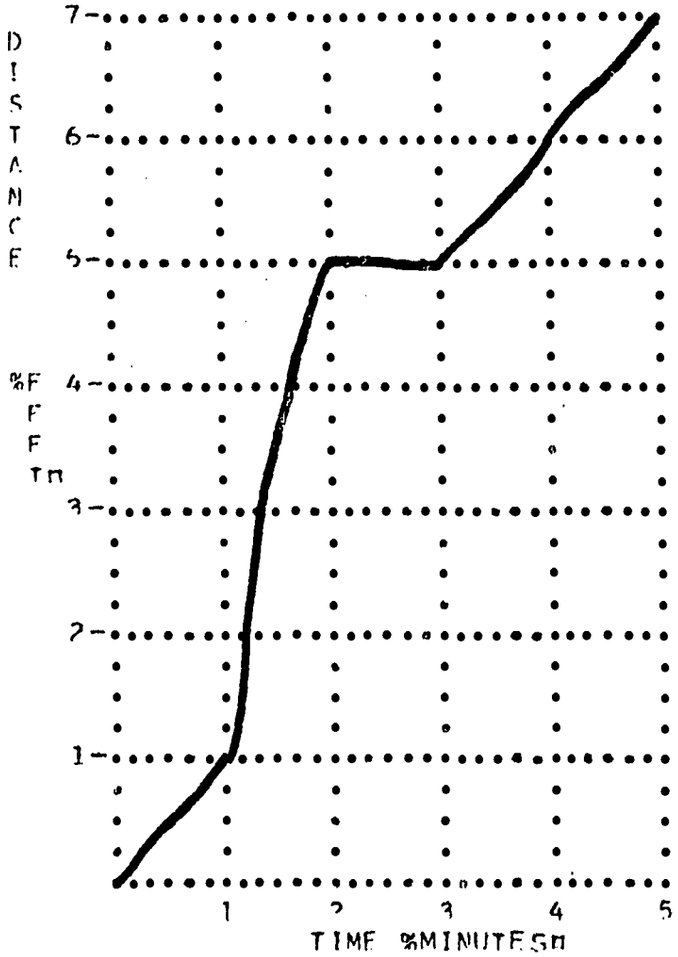
A PROCESS WHICH SEPARATES TWO SOLIDS IN SOLUTION IS CALLED 1878
A. FRACTIONAL DISTILLATION.
*B. FRACTIONAL CRYSTALLIZATION.
C. PROGRESSIVE FILTRATION.
D. TITRATION.

FRACTIONAL CRYSTALLIZATION IS 1879
A. A PROCESS TO SEPARATE A MIXTURE OF LIQUIDS.
B. IS A PROCESS TO SEPARATE SOLIDS FROM LIQUIDS BY CAREFUL FILTRATION.
*C. A PROCESS THAT USES DIFFERENCES IN SOLUBILITY TO SEPARATE TWO SOLIDS.
D. A PROCESS OF CAREFUL NEUTRALIZATION OF AN ACID BY A BASE.

****

THE STUDENT DEMONSTRATES HIS UNDERSTANDING OF GRAPHED DATA BY ASSOCIATING PLOTTED POINTS WITH GIVEN DATA. %4□ 0172

DIRECTIONS - PAT'S TURTLE, RALPH, WON A TURTLE RACE AT THE COUNTY FAIR. RALPH'S PERFORMANCE IS SHOWN ON THE FOLLOWING GRAPH. USE THIS GRAPH TO ANSWER THE NEXT FOUR QUESTIONS.



IN FIVE MINUTES, RALPH TRAVELED 1880

A. 5 FT.
*B. 7 FT.
C. 15 FT.
D. 19 FT.
E. 3 FT.

IT TOOK RALPH HOW MANY MINUTES TO GO 6 FT? 1881

*A. 4 MIN.
B. 6 MIN.
C. 10 MIN.
D. 3 MIN.

TWO MINUTES AFTER THE RACE STARTED RALPH WAS 1882

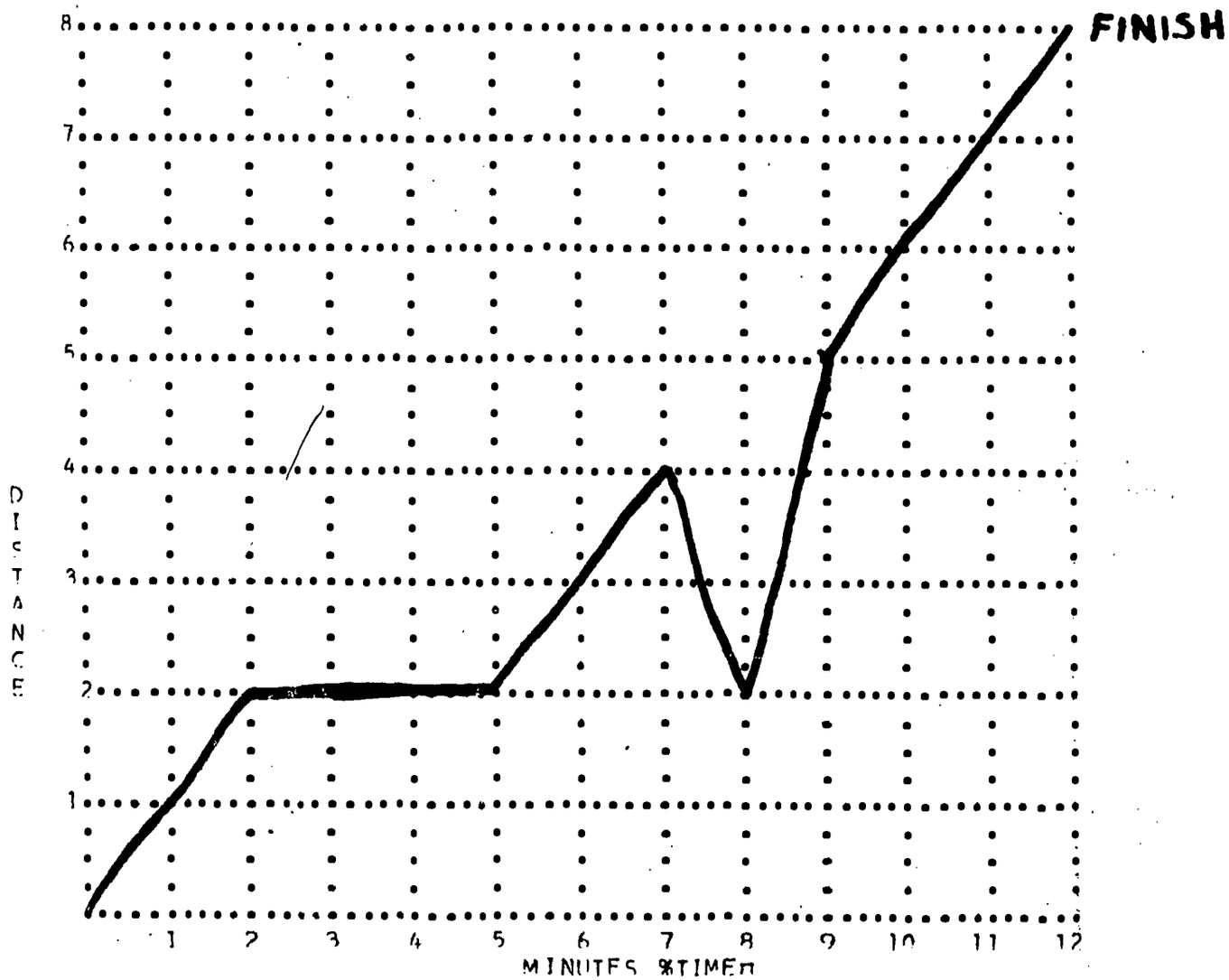
A. STILL ON THE STARTING LINE.
B. LESS THAN 2 FT. FROM THE STARTING LINE.
*C. MORE THAN 2 FT. FROM THE STARTING LINE.
D. 2 FT. FROM THE STARTING LINE.

RALPH TRAVELED 4 FT. FROM THE STARTING LINE IN 1883

A. 2 MIN.
*B. LESS THAN 2 MIN.
C. MORE THAN 2 MIN.
D. CANNOT TELL FROM THE GRAPH.

THE STUDENT WILL DEMONSTRATE HIS UNDERSTANDING OF GRAPHICAL DATA BY IDENTIFYING A GIVEN SET OF GRAPHED POINTS OR CHANGE. %7¤ 0173

DIRECTIONS - RALPH %THE TURTLE¤ RAN IN THE NIRT* AFTER WINNING IN THE COUNTY FAIR. HIS PERFORMANCE IS SHOWN ON THE FOLLOWING GRAPH. USE THE GRAPH TO ANSWER THE FOLLOWING SEVEN QUESTIONS.
*NATIONAL INVITATIONAL REPTILE TOURNAMENT



IN TEN MINUTES, RALPH WAS 1884
A. 5 FT. FROM THE STARTING LINE.
B. 21 FT. FROM THE STARTING LINE.
C. 11 FT. FROM THE STARTING LINE.
*D. 6 FT. FROM THE STARTING LINE.

FOR THE FIRST TWO MINUTES OF THE RACE, RALPH,S SPEED WAS 1885
A. 2 FT. PER HOUR.
*B. 2 FT. PER MIN.
C. 2 FT. PER MIN.
D. 1 MIN. PER FT.

RALPH WASN,T MOVING DURING THE 1886
*A. FOURTH MINUTE.
B. SIXTH MINUTE.
C. EIGHTH MINUTE.
D. TENTH MINUTE.

RALPH•S SPEED WAS 2 FT. PER MINUTE DURING THE 1887
A. FIRST MINUTE.
B. SIXTH MINUTE.
*C. EIGHTH MINUTE.
D. ELEVENTH MINUTE.

RALPH TURNED AROUND AND WALKED BACK TOWARD THE STARTING LINE DURING THE 1888
*A. EIGHTH MINUTE.
B. THIRD MINUTE.
C. NINTH MINUTE.
D. FIRST MINUTE.

RALPH•S SPEED IN THE TENTH MINUTE OF THE RACE WAS THE *SAME* AS HIS SPEED IN THE 1889
A. FIFTH MINUTE.
B. EIGHTH MINUTE.
C. NINTH MINUTE.
*D. SEVENTH MINUTE.

RALPH•S AVERAGE SPEED FOR THE ENTIRE RACE WAS 1890
A. TWO FT. PER MIN.
*B. LESS THAN TWO FT. PER MIN.
C. MORE THAN TWO FT. PER MIN.
D. IMPOSSIBLE TO FIGURE OUT.

****

THE STUDENT WILL DEMONSTRATE HIS UNDERSTANDING OF MASS AND WEIGHT AND HOW THEY ARE MEASURED BY IDENTIFYING THE RESULTS OF USING A BALANCE SCALE OR SPRING SCALE IN GIVEN SITUATIONS. %20□ 0174

THE DEVICE THAT MEASURES THE PULL OF GRAVITY-- 1891
A. BALANCE SCALE.
*B. SPRING BALANCE
C. BALANCE SCALE AND SPRING BALANCE
D. NONE OF THESE CHOICES

AT SCHOOL, JERRY PUTS A GRAM OF FEATHERS ON ONE SIDE OF A BALANCE SCALE, AND A GRAM OF SALT ON THE OTHER SIDE 1892
*A. THE SCALE WILL BALANCE.
B. THE SCALE WILL DROP ON THE SALT•S SIDE.
C. THE SCALE WILL DROP ON THE FEATHER•S SIDE.
D. THE SCALE WILL DROP ON BOTH SIDES.

TED PLACES A PENNY ON ONE SIDE OF A BALANCE SCALE AND A BALL OF PAPER ON THE OTHER SIDE. THE PENNY AND PAPER BALANCE EXACTLY. IF TED TRIED TO BALANCE THE SAME THINGS ON THE MOON 1893
*A. THE SCALE WOULD BALANCE AGAIN.
B. THE SCALE WOULD DROP ON THE PENNY SIDE.
C. THE SCALE WOULD DROP ON THE PAPER SIDE.
D. THE SCALE WOULD RISE ON BOTH SIDES.

DIRECTIONS - JEAN HAS A BALANCE SCALE AND A SET OF *METRIC STANDARDS OF MASS.* ONE SIDE OF THE BALANCE SCALE IS LABELED *X*, THE OTHER SIDE IS LABELED *Y*. IN THE FOLLOWING QUESTIONS IDENTIFY THE RESULT OF THE GIVEN ACT.

JEAN PUTS 10 G. IN X, 5 G. IN Y-- 1894
*A. X WILL DROP.
B. Y WILL DROP.
C. X AND Y WILL BALANCE.
D. X AND Y WILL BOTH DROP.

SHE PUTS POWDER IN X AND A 10 G. *STANDARD* IN Y. X AND Y BALANCE EXACTLY. THEN SHE REMOVES THE POWDER AND SAVES IT. JEAN NOW PUTS PENNIES IN X. WITH THE STANDARD IN Y. X AND Y BALANCE *AGAIN*. IF SHE TAKES THE STANDARD OUT OF Y AND PUTS THE POWDER IN Y INSTEAD 1895
A. X WILL DROP.
B. Y WILL DROP.
*C. X AND Y WILL BALANCE.
D. X AND Y WILL BOTH RISE.

AN ERASER IN X. A 10 G. STANDARD IN Y. X *DROPS*. IF JEAN TRIED THIS AGAIN ON THE TOP OF A MOUNTAIN 1896
*A. X WILL DROP.
B. Y WILL DROP.
C. X AND Y WILL BALANCE.
D. X AND Y WILL BOTH RISE.

AN ERASER IN X. A 15 G. STANDARD IN Y. X AND Y BALANCE. *BELOW* SEA LEVEL 1897
A. X WILL DROP.
B. Y WILL DROP.
*C. X AND Y WILL BALANCE.
D. X AND Y WILL BOTH DROP.

BAG OF DUST IN X. A 5 G. STANDARD IN Y. *X* DROPS. ON A *SPRING BALANCE* 1898
*A. X WILL WEIGH MORE.
B. Y WILL WEIGH MORE.
C. X AND Y WILL WEIGH THE SAME.

A MAGNET IN X. A 20 G. STANDARD IN Y. X AND Y BALANCE EXACTLY. JEAN HANDS THE MAGNET FROM A COILED SPRING, AND THE SPRING STRETCHES ONE CENTIMETER. SHE REMOVES THE MAGNET AND HANGS THE *STANDARD* ON THE SPRING. NOW THE SPRING WILL STRETCH 1899
*A. ONE CM.
B. LESS THAN ONE CM.
C. MORE THAN ONE CM.
D. NOT AT ALL.

JEAN USES A *SPRING BALANCE* TO MEASURE A HAMMER AND A WRENCH. BOTH MEASURE 200 G. ON THE *BALANCE SCALE*--HAMMER IN X--WRENCH IN Y-- 1900
A. X DROPS.
B. Y DROPS.
C. X AND Y BOTH DROP.
*D. X AND Y BALANCE.

JEAN TAKES HER EQUIPMENT TO THE MOON. SHE PUTS ONE MOONROCK IN X AND A 30 G. STANDARD IN Y. *Y* DROPS. IF SHE DOES THE *SAME* THING WITH THE *SAME* ROCK BACK ON EARTH 1901
A. X AND Y WILL BALANCE.
B. X WILL DROP.
*C. Y WILL DROP.
D. X AND Y WILL BOTH DROP.

STILL ON THE MOON, JEAN PUTS MOONDUST IN X, A 5 G. STANDARD IN Y. X AND Y BALANCE. IF SHE DOES THE SAME THING WITH THE SAME DUST ON *EARTH* 1902

A. X WILL DROP.
B. Y WILL DROP.
C. X AND Y WILL BOTH DROP.
*D. X AND Y WILL BALANCE.

DIRECTIONS - %FOR QUESTIONS 13-15¤ MIKE HAS A *SPRING BALANCE* AND A SET OF METRIC STANDARDS OF MASS. HE USES THESE TO PERFORM A FEW EXPERIMENTS.

WITH A 40 G. STANDARD, THE SPRING BALANCE IS PULLED TWO CENTIMETERS. A 40 G. BAG OF FEATHERS WILL STRETCH THE BALANCE 1904

A. NOT AT ALL.
B. LESS THAN 2 CM.
C. MORE THAN 2 CM.
*D. 2 CM.

A 10 G. STANDARD AND A COIN ARE BALANCED FIRST ON A *BALANCE* SCALE. THEN THE STANDARD IS HUNG ON A SPRING BALANCE-THE SPRING STRETCHES 1/2 CM. IF THE COIN IS HUNG FROM THE SPRING BALANCE, THE SPRING WILL STRETCH 1905

A. NOT AT ALL.
B. LESS THAN 1 CM.
C. MORE THAN 1/2 CM.
*D. 1 CM.

IN SCHOOL KAY PLACES A 50 G. STANDARD ON A SPRING BALANCE-THE SPRING STRETCHES 5 CM. ON THE *MOON*, THE SAME STANDARD WILL STRETCH THE SAME SPRING BALANCE 1906

A. MORE THAN 5 CM.
*B. LESS THAN 5 CM.
C. NOT AT ALL.
D. 5 CM.

AT SEA LEVEL, A BAG OF FEATHERS WIEGHS 5 G. ON A *BALANCE SCALE* AT SEA LEVEL, THE BAG OF FEATHERS WILL MEASURE 1910

A. ALMOST NOTHING.
*B. 5 G.
C. MORE THAN 5 G.
D. LESS THAN 5 G.

****

CRITICAL THINKING

THE CHILD WILL DEMONSTRATE HIS ABILITY TO LOCATE THE CENTRAL IDEA BY SELECTING IT AFTER READING OR LISTENING TO A GIVEN SELECTION. %15¤ 0113

EXAMINE A RUBBER SPONGE, A ROCK, OR A BOOK. OBSERVE THAT EACH OBJECT OCCUPIES A CERTAIN SPACE AND THAT EACH HAS A DEFINITE WEIGHT. WE MIGHT TAKE ONE OF THESE OBJECTS TO THE TOP OF A HIGH MOUNTAIN, OR EVEN TO THE MOON. THE AMOUNT OF MATTER CONTAINED IN AN OBJECT REMAINS THE SAME AT ANY PLACE IN THE UNIVERSE, ALTHOUGH ITS WEIGHT VARIES FROM PLACE TO PLACE. A MEASURE OF THE AMOUNT OF MATTER AN OBJECT CONTAINS IS CALLED ITS MASS. 1072

OOSE THE MAIN IDEA.

A. THE AMOUNT OF MATTER IN AN OBJECT IS CALLED THE MASS.
*B. AN OBJECT ALWAYS POSSESSES THE SAME AMOUNT OF MATTER, OR MASS.
C. MASS IS THE AMOUNT OF MATTER OF AN OBJECT.

THE WORD EVOLUTION IN ITS SIMPLEST SENSE MEANS *CHANGE*. CONTEMPORARY OBSERVATIONS SHOW THAT SPECIES OF ORGANISMS CAN AND DO CHANGE, OR EVOLVE. MOREOVER, THE FOSSIL RECORD DEMONSTRATES CONCLUSIVELY THAT CHANGES %EVOLUTION¤ HAS BEEN A DOMINANT CHARACTERISTIC IN THE PAST HISTORY OF THE BIOSPHERE. 1073

CHOOSE THE MAIN IDEA THAT COMES FROM THE PARAGRAPH.
A. EVOLUTION MEANS CHANGE.
*B. OBSERVATIONS AND FOSSIL RECORDS INDICATE THAT SPECIES UNDERGO CHANGE.
C. EVOLUTION IS A FACT.
D. THE PAST HISTORY OF THE BIOSPHERE IS DEMONSTRATED BY EVOLUTION.

THE KILOGRAM IS THE UNIT OF MASS IN THE METRIC SYSTEM. A UNIVERSAL UNIT OF MASS WAS NOT A MATTER TO BE SETTLED BY DISCOVERY BUT RATHER TO BE DEFINED AND ADOPTED BY GENERAL AGREEMENT OF THE NATIONS OF THE WORLD. UNDER SUCH AN AGREEMENT, THE UNIT OF MASS WAS ESTABLISHED AS THE MASS OF A CERTAIN BLOCK OF PLATINUM ALLOY PRESERVED WITH ELABORATE PRECAUTIONS BY THE INTERNATIONAL BUREAU OF WEIGHTS AND MEASURE IN FRANCE. THE MASS OF THIS BLOCK IS THE KILOGRAM. 1074

CHOOSE THE MAIN IDEA.
A. THE KILOGRAM IS THE UNIT OF MASS IN THE METRIC SYSTEM.
*B. UNITS ARE AND MUST BE DEFINED BEFORE USE.
C. PLATINUM ALLOY IS USED AS THE STANDARD UNIT.

MAN,S DESIRE TO UNDERSTAND THE ENVIRONMENT IN WHICH HE LIVES HOLDS THE KEY TO ALL HIS KNOWLEDGE OF THE MATERIAL UNIVERSE. MAN IS BY NATURE BASICALLY CURIOUS AND WANTS TO KNOW THE WHY AND HOW OF THINGS. HE WANTS TO KNOW WHAT MAKES THEM *TICK*. WANTING TO UNDERSTAND THE MATERIAL UNIVERSE, HE SEEKS EXPLANATIONS FOR ITS BEHAVIOR THROUGH SCIENCE. 1075

CHOOSE THE MAIN IDEA OF THE ABOVE PARAGRAPH.
A. MAN IS CURIOUS.
B. SCIENCE BEGINS WITH CURIOSITY.
C. MAN WANTS TO LEARN ALL.
D. MAN WANTS TO KNOW WHAT MAKES THINGS *TICK*.
*E. MAN USES THE TOOLS OF SCIENCE TO ANSWER HIS QUESTIONS.

THE METRIC SYSTEM IS USED BY SCIENTISTS ALL OVER THE WORLD. IN MOST COUNTRIES IT IS ALSO THE ONLY SYSTEM OF WEIGHTS AND MEASURES USED BY THE PEOPLE. IN THE UNITED STATES THE ENGLISH SYSTEM IS MORE COMMONLY USED. HOWEVER, SINCE THE USE OF THE METRIC SYSTEM IS RAPIDLY INCREASING, WE SHOULD BECOME FAMILIAR WITH IT. YOU WILL FIND IT IS MUCH SIMPLER THAN OUR ENGLISH SYSTEM BECAUSE IT IS BASED ON DECIMALS MUCH LIKE OUR MONETARY SYSTEM. 1076

CHOOSE THE MAIN IDEA OF OF THE ABOVE PARAGRAPH.
*A. BECAUSE OF ITS INCREASE USE, THE METRIC SYSTEM IS BECOMING THE MOST IMPORTANT SYSTEM OF MEASURE.
B. THE METRIC SYSTEM IS EASIER THAN THE ENGLISH SYSTEM BECAUSE IT IS BASED ON DECIMALS.
C. ALL SCIENTISTS USE THE METRIC SYSTEM.

****

THE CHILD WILL DEMONSTRATE HIS ABILITY TO DISTINGUISH BETWEEN FACT AND OPINION STATEMENTS BY CORRECTLY CATEGORIZING A GIVEN SET OF STATEMENTS. %32□ 0114

DIRECTIONS-- CHOOSE *F* IF THE GIVEN STATEMENT IS A FACT, AND *O* IF THE STATEMENT IS AN OPINION. 0044

F O* THE MICROSCOPE IS THE GREATEST AIDE TO THE BIOLOGIST. 1077

F O* ALL BIOLOGY IS USEFUL TO EVERY DAY LIVING. 1078

F* O CHARLES DARWIN IS USUALLY GIVEN CREDIT FOR THE THEORY OF EVOLUTION. 1079

F O* SCIENCE IS THE MOST DIFFICULT SUBJECT OFFERED IN ELEMENTARY SCHOOL. 1080

F O* ZOOLOGY IS MORE IMPORTANT THAN BOTANY. 1081

F O* WARM BLOODED ANIMALS MAKE BETTER PETS THAN COLD-BLOODED ONES. 1082

F O* SAND IS NOT A DESIRABLE ADDITION TO FARMING SOILS. 1083

DIRECTIONS-- READ EACH STATEMENT CAREFULLY. IF THE STATEMENT IS A TRUE FACT CIRCLE THE *A*. IF THE STATEMENT IS JUST A MATTER OF HOW PEOPLE FEEL CIRCLE THE *B*. 0045

CATS MAKE GOOD PETS. 1085
A. FACT
*B. OPINION

SCIENCE IS A FUN SUBJECT. 1086
A. FACT
*B. OPINION

WATER IS MORE DENSE THAN OIL. 1087
*A. FACT
B. OPINION.

THE METRIC SYSTEM IS THE BEST SYSTEM OF MEASUREMENT. 1088
A. FACT
*B. OPINION

MEN ARE MESSIER THAN WOMEN. 1089
A. FACT
*B. OPINION

MOST TREES ARE GREEN IN SUMMER. 1090
*A. FACT
B. OPINION

FISH HAVE LUNGS AND GILLS. 1091
*A. FACT
B. OPINION

ALL PEOPLE ENJOY ART. 1092

A. FACT
*B. OPINION

PENCILS ARE EASIER TO USE THAN PENS. 1093
A. FACT
*B. OPINION

DIRECTIONS-- IF THE STATEMENT LISTED BELOW ARE FACTS, CIRCLE THE *F*. IF THE STATEMENT CAN *NOT* BE READILY PROVED OR DISPROVED, CIRCLE THE *O*. 0046

F O* BLACK IS A GOOD COLOR. 1094

F* O SOME DOGS ARE BROWN. 1095

F* O ALL DOGS HAVE FOUR LEGS. 1096

F O* YELLOW HOUSES ARE ATTRACTIVE. 1097

F O* GOLDFISH MAKE DULL PETS. 1098

F* O ALL COWS EAT GRASS. 1099

F O* ALICE,S HAIRDO IS UGLY. 1100

F* O GRASSHOPPERS ARE SMALLER THAN BIRDS. 1101

F O* ROSES SMELL GREAT. 1102

F O* FORD MAKES THE BEST CARS. 1103

DIRECTIONS-- READ THE FOLLOWING STATEMENTS. IF THE STATEMENT IS A FACT, CIRCLE THE *F*. IF THE STATEMENT IS AN OPINION, CIRCLE THE *O*. 0047

F O* TIME MAGAZINE COVERS EACH NEWS ITEM VERY THOROUGHLY. 1104

F O* FIRESTONE 770 TIRES WITHSTAND EXCESSIVE ABUSE FOR OVER 50,000 MILES. 1105

F O* MONDAY IS THE WORSE DAY OF THE WEEK. 1106

F* O MORE GIRLS WEAR MINIS THAN MAXIS. 1108

F O* MAXIS ARE THE UP-COMING FASHION. 1109

F* O EVERYGREENS ARE THE MOST USED TYPE OF PLANTS IN LANDSCAPING. 1111

****

THE STUDENT WILL DEMONSTRATE HIS UNDERSTANDING OF THE IMPORTANCE OF FACTS AND OPINIONS BY SELECTING STATEMENTS THAT ARE MOST DIFFICULT TO PROVE. %15□ 0115

DIRECTIONS-- IN EACH OF THE FOLLOWING QUESTIONS, FIND THE SENTENCE WHICH WOULD BE *MOST* DIFFICULT TO PROVE. CIRCLE THE LETTER OF THE MOST DIFFICULT STATEMENT TO PROVE. 0048

WHICH WOULD BE *MOST* DIFFICULT TO PROVE0 1113

A. BUTTERFLIES HAVE TWO SETS OF WINGS.
B. [illegible]
*C. BUTTERFLIES ARE BEAUTIFUL.

WHICH WOULD BE *MOST* DIFFICULT TO PROVED 1114
A. MOTHS HAVE THREE BODY PARTS.
B. THE FEELERS OF A MOTH ARE MORE FEATHERY THAN THOSE OF A BUTTERFLY.
*C. MOTHS ARE NOT AS PRETTY AS BUTTERFLIES.

WHICH WOULD BE MOST DIFFICULT TO PROVED 1115
A. CATERPILLARS HATCH FROM BUTTERFLY EGGS.
*B. CATERPILLARS ARE UGLY.
C. CATERPILLARS SPIN COCOONS.

****

THE CHILD WILL DISPLAY HIS ABILITY TO DISTINGUISH BETWEEN FACTS THAT ARE RELEVANT AND FACTS THAT ARE NOT RELEVANT TO SITUATION OR PROBLEM BY CORRECTLY IDENTIFYING THE RELEVANT AND NONRELEVANT PHRASES. %20¤ 0119

DIRECTIONS - YOU HAVE BEEN ASKED TO GIVE A REPORT ON THE LIFE OF A HONEY BEE, FOR YOUR SCIENCE CLASS. READ THE FOLLOWING PARAGRAPHS. WHICH ONES WOULD HELP YOU¤

WHEN A COLONY BECOMES OVERCROWDED, THE OLD QUEEN STOPS LAYING EGGS. THE WORKERS BUILD CELLS FOR NEW QUEENS, AND ABOUT FOUR DAYS LATER COVER THE CELLS WITH WAX. A FEW DAYS AFTER THE NEW QUEEN CELLS ARE COVERED OVER WITH WAX, MANY OF THE WORKERS AND THE OLD QUEEN LEAVE THE HIVE AS A SWARM. 2763
*A. THIS PARAGRAPH HELPS. 2763
B. THIS PARAGRAPH DOES NOT HELP. 2763

MANY PERSONS ARE MORE INTERESTED IN STUDYING BEES AND THEIR HABITS THAN THEY ARE IN GATHERING HONEY. BEES CAN BE KEPT IN BOTH CITY AND FARM AREAS. THE BEGINNER MUST BUY HIS BEES EITHER AS A PACKAGE OF WORKERS AND A QUEEN, OR AS A COMPLETE HIVE. HE SHOULD MAKE SURE THAT HIS COLONY HAS BEEN INSPECTED BY THE STATE BEE INSPECTOR AND FOUND FREE OF DISEASE. 2764
A. THIS PARAGRAPH HELPS. 2764
*B. THIS PARAGRAPH DOES NOT HELP. 2764

THE PEOPLE OF THE STONE AGE, THOUSANDS OF YEARS AGO ATE HONEY THAT THEY STOLE FROM THE HIVES OF WILD BEES. SOME OF THESE PEOPLE LEARNED TO MAKE CRUDE HIVES FOR THE BEES, SO THE HONEY WOULD BE NEAR THEIR HOMES. THEY PROBABLY MADE THESE FIRST BEEHIVES OUT OF HOLLOW LOGS. 2765
A. THIS PARAGRAPH HELPS. 2765
*B. THIS PARAGRAPH DOES NOT HELP. 2765

SPECIAL GLANDS IN THE ABDOMENS OF YOUNG WORKERS PRODUCE BEESWAX. THE WAX OOZES THROUGH SMALL PORES OR HOLES IN THE BODY AND FORMS TINY WHITE FLAKES ON THE OUTSIDE OF THE ABDOMEN. A BEE USUALLY MAKES EIGHT FLAKES AT A TIME. 2766
*A. THIS PARAGRAPH HELPS. 2766
B. THIS PARAGRAPH DOES NOT HELP. 2766

DIRECTIONS-- WHAT IS THE APPEARANCE OF SEA URCHINS0 IF THE STATEMENT HELPS YOU IN DISCOVERING THE APPEARANCE OF THE SEA 0049

URCHIN CIRCLE THE *A*. IF THE STATEMENT DOES NOT HELP YOU, CIRCLE THE *B*.

A B* SEA URCHINS LIVE NEAR THE SEA. 1116

A* B THEY ARE COVERED WITH SPINES AND LOOK LIKE BURRS. 1117

A* B THEY MOVE SLOWLY BY MEANS OF THE TUBE-LIKE FEET HIDDEN BENEATH THE SPINES. 1118

A* B THE TUBES ON THEIR UPPER SURFACES MOVE PIECES OF SEAWEED TO THEIR MOUTHS. 1119

A B* IF A STARFISH COMES TOO NEAR, THE URCHIN SINKS SEVERAL SETS OF CURVED PINCERS INTO THE STARFISH. 1120

DIRECTIONS-- WHICH OF THE FOLLOWING IDEAS TELLS YOU THE MOST ABOUT HOW SCREWS HELP US% IF THE STATEMENT IS HELPFUL IN PROVING THE TOPIC CIRCLE THE *A*. IF THE STATEMENT DOES NOT HELP YOU, CIRCLE THE *B*. 0050

A B* MIKE AND HIS FATHER ARE GOING FISHING. 1121

A* B A SCREW CAN HOLD A CAR WHEEL TIGHTLY IN PLACE. 1122

A B* A SCREW TURNS. 1123

A* B JAR TOPS HAVE WINDING EDGES. THE EDGES ARE SCREWS THAT KEEP THE LIDS ON TIGHT. 1124

A* B A SCREW CAN HELP LIFT HEAVY THINGS. 1125

A B* THE BASE OF A LIGHT BULB IS A SCREW. 1126

DIRECTIONS-- IF THE STATEMENT IS HELPFUL IN PROVING THE TOPIC CIRCLE THE *A*. IF IT DOES NOT HELP YOU IN PROVING THE TOPIC, CIRCLE THE *B*. 0051
TOPIC-- WHAT DOES A LOBSTER DO AT NIGHT

A B* FISHERMEN PLACE THE LOBSTER TRAPS IN THE BOTTOM OF THE OCEAN. 1127

A* B AFTER DARK, THE LOBSTER COMES OUT OF HIS HIDING PLACE AND SCOUTS AROUND FOR FOOD. 1128

A B* THE TRAP IS A CAGE WITH STOUT WOODEN SLATS. 1129

A B* WHEN HE IS READY TO COME OUT, HE CANNOT FIND THE SMALL OPENING IN THE FUNNEL. 1130

A* B THE LOBSTER SPENDS MOST OF HIS TIME ON THE OCEAN FLOOR. 1131

DIRECTIONS-- WHICH OF THE FOLLOWING IDEAS TELLS YOU THE MOST ABOUT HOW LEVERS HELP US0 IF THE PHRASE IS HELPFUL CIRCLE THE *A*. IF IT DOESN,T HELP YOU, CIRCLE THE *B*. 0052

A* B LEVERS HELP TO LIFT HEAVY THINGS. 1132

A B* AN IRON BAR IS A LEVER. 1133

A* B A HAMMER IS A LEVER--IT PULLS OUT NAILS. 1134

A B* PEGGY AND MARY HAVE FUN ON A SEA SAW. 1135

A B* FATHER WORKS HARD WHEN HE ROWS THE BOAT. 1136

A* B A KNIFE IS A LEVER. IT CUTS FOOD. 1137

A B* A CROWBAR IS A LEVER. 1138

DIRECTIONS-- ANN IS WRITING A REPORT ON *WATER*. READ THE PARAGRAPHS BELOW. IF YOU THINK IT WOULD HELP ANN CIRCLE THE *A*. IF YOU DON'T THINK IT WOULD HELP, CIRCLE THE *B*. 0053

A* B WATER IS USED AT SCHOOL AND AT HOME. WATER IS USED FOR DRINKING, WASHING, COOKING, AND MANY OTHER THINGS. PEOPLE, ANIMALS, AND PLANTS ALL NEED WATER. 1139

A B* MOTHER IS COOKING SOMETHING FROM A RECIPE. HOW DOES SHE KNOW HOW MUCH WATER TO USE? A MEASURING CUP WILL HELP HER. 1140

A* B WHEN WATER EVAPORATES, IT GOES INTO THE AIR. WE CANNOT SEE THE WATER IN THE AIR, BUT IT IS THERE. 1141

A* B WIND MAKES WATER EVAPORATE MORE QUICKLY. HEAT MAKES WATER EVAPORATE MORE QUICKLY. 1142

A B* WATER PIPES IN A HOME COME IN DIFFERENT SIZES. THEY ARE MADE OF IRON, BRASS OR COPPER. 1143

DIRECTIONS-- JEAN IS WRITING A REPORT CALLED, *FACTS ABOUT MAGNETS*. READ THE PARAGRAPHS BELOW AND CIRCLE THE *A* IF THE PARAGRAPH WOULD HELP YOU AND *B* IF IT WOULDN'T. 0054

A B* THE BOOK, *MICKEY'S MAGNET*, WAS WRITTEN BY FRANKLYN BRANLEY AND ELEANOR VAUGHAN. IT IS FUN TO READ ABOUT MICKEY'S ADVENTURES WITH HIS MAGNET. 1144

A* B MAGNETS PICK UP THINGS MADE OF IRON. WITH A MAGNET, WE CAN TELL IF SOMETHING IS MADE OF IRON. 1145

A* B MAGNETS ARE MADE IN DIFFERENT SHAPES, BUT THEY ALL PICK UP IRON. A HORSESHOE MAGNET IS USUALLY STRONGER THAN A STRAIGHT MAGNET BECAUSE IT HAS TWO ENDS PULLING ON AN OBJECT AT ONCE. 1146

A B* A FAMOUS MAGICIAN ONCE USED A MAGNET TO PERFORM A MAGIC TRICK. HE FRIGHTENED THE SOLDIERS AWAY AND STOPPED THE WAR. 1147

A* B MAGNETS CAN PICK UP IRON THINGS THROUGHT PAPER, GLASS, WATER, ETC. IF THE MATERIAL IS TOO THICK, A STRONGER MAGNET IS NEEDED. 1148

DIRECTIONS-- WHICH OF THE FOLLOWING STATEMENTS HELP YOU IN DISCOVERING CHARACTERISTICS OF INSECTS? IF THE STATEMENT DOES HELP YOU, CIRCLE THE *A*. IF IT DOES *NOT* HELP YOU, CIRCLE THE *B*. 0055

A* B CRICKETS HAVE SIX LEGS. ALL INSECTS HAVE SIX LEGS. 1149

A B* SOME CRICKETS CHIRP AT NIGHT. 1150

A B* I FOUND ANOTHER INSECT, SAID DAN. IT IS AN ANT. 1151

A* B THE ANT HAS THREE PARTS TO HIS BODY. ALL INSECTS HAVE THREE PARTS. 1152

A* B A DRAGONFLY HAS ANTENNAE. A DRAGONFLY IS AN INSECT. 1153

A B* SOME INSECTS LIVE IN WATER. 1154

A* B A MOTHER GRASSHOPPER LAYS HER EGGS IN THE GROUND. EVERY INSECT LAYS EGGS. 1155

****

THE CHILD WILL DEMONSTRATE HIS ABILITY TO DRAW INFERENCES BY SELECTING THE MOST LOGICAL CONCLUSIONS BASED ON EVIDENCE IN A GIVEN SELECTION. %10m 0120

DIRECTIONS-- READ THE FOLLOWING PARAGRAPH. 56

AFTER ABOUT THREE WEEKS, THE INSECT, IF LEFT UNDISTURBED BORES A HOLE IN ONE END OF THE COCOON AND EMERGES AS A MOTH. HOWEVER, SILK OBTAINED FROM THESE COCOONS IS OF LITTLE VALUE ONCE IF IS PUNCTURED BY THE INSECT. STEAM OR HOT AIR IS USED TO KILL THE INSECT BEFORE IT EMERGES FROM THE COCOON.

READ EACH OF THE FOLLOWING STATEMENTS CAREFULLY, THEN DECIDE WHETHER IT IS TRUE, PROBABLY TRUE, FALSE, PROBABLY FALSE, OR THAT YOU ARE UNABLE TO DECIDE WHETHER IT IS TRUE OR FALSE FROM THE INFORMATION PROVIDED IN THE ABOVE PARAGRAPH. CIRCLE YOUR ANSWER.

IF THE INSECT IS DISTURBED, IT WILL STILL EMERGE AS A MOTH, BUT IT WILL TAKE FOUR TO FIVE WEEKS. 1156
A. TRUE
B. PROBABLY TRUE
C. FALSE
D. PROBABLY FALSE
*E. CAN,T SAY

THE QUALITY OF THE SILK IS RUINED IF THE INSECT EMERGES FROM THE COCOON. 1157
*A. TRUE
B. PROBABLY TRUE
C. FALSE
D. PROBABLY FALSE
E. CAN,T SAY

HOT AIR OR STEAM IS USED TO KILL THE INSECT, AND IT ALSO KEEPS THE SILK FIBERS PLIABLE. 1158
A. TRUE
B. PROBABLY TRUE
C. FALSE
D. PROBABLY FALSE
*E. CAN,T SAY

IF THE INSECT OR MOTH HAD ONLY PARTLY EMERGED, THE SILK COULD STILL BE USED. 1159
A. TRUE
B. PROBABLY TRUE
C. FALSE

*D. PROBABLY FALSE
F. CAN.T SAY

THE MOTH CAN ONLY EMERGE FROM ONE SPECIFIC END OF THE COCOON. 1160
A. TRUE
B. PROBABLY TRUE
*C. FALSE
D. PROBABLY FALSE
F. CAN.T SAY

****

THE CHILD WILL DEMONSTRATE HIS ABILITY TO RECOGNIZE STATED AND UNSTATED ASSUMPTIONS BY %LISTING OR SELECTING¤ THEM AFTER READING OR LISTENING TO A GIVEN SELECTION. %15¤ 0122

DIRECTIONS-- READ THE FOLLOWING PARAGRAPH. 57

ANY MECHANISM FOR EVOLUTION MUST EXPLAIN HOW ORGANISMS CAN DEVELOP ADAPTATIONS TO THEIR ENVIRONMENT. ADAPTATIONS ARE INHERITED STRUCTURAL OR FUNCTIONAL CHARACTERISTICS OF AN ORGANISM THAT GIVE THAT ORGANISM OR THE POPULATION TO WHICH IT BELONGS AN ADVANTAGE IN ITS ENVIRONMENT. WELL KNOWN EXAMPLES ARE THE TUFTED SEED OF THE DANDELION, THE WEBBED FEET OF THE DUCK, AND THE LONG NECK OF THE GIRAFFE. A MECHANISM THAT WOULD EXPLAIN EVOLUTION MUST BE ABLE TO ACCOUNT FOR ANY SUCH ADAPTATIONS.

IF THE STATEMENT LISTED BELOW IS A STATED ASSUMPTION IN THE ABOVE PARAGRAPH CIRCLE THE *A*. IF IT IS AN UNSTATED ASSUMPTION CIRCLE THE *B*.

EVOLUTION IMPLIES CHANGE. 1161
*A. STATED
B. UNSTATED

THE ENVIRONMENT DEMANDS ADAPTATION. 1162
*A. STATED
B. UNSTATED

ONLY THE FIT SURVIVE. 1163
A. STATED
*B. UNSTATED

EVOLUTIONARY IMPORTANT ADAPTATIONS ARE TRANSMITTED GENETICALLY. 1164
*A. STATED
B. UNSTATED

ANCESTORS OF THE MODERN DAY GIRAFFE PROBABLY HAD SHORT NECKS. 1165
A. STATED
*B. UNSTATED

ALL CHANGES ARE RENDERED FOR THE BENEFIT OF AN ORGANISM OR POPULATION AND THEREFORE ARE ADAPTATIONS. 1166
A. STATED
*B. UNSTATED

DIRECTIONS-- READ THE FOLLOWING PARAGRAPH. 58

LOUIS PASTEUR.S WORK WAS RESPONSIBLE FOR UNLOCKING THE MYSTERY OF THIS PROCESS %YEAST RISING¤. HE FOUND THAT WHILE THE

DOUGH WAS IN WARM AIR, TINY PLANTS CALLED YEAST BECAME EMBEDDED IN THE SUBSTANCE. THE YEAST PRODUCE ENZYMES THAT SET OFF CHEMICAL REACTIONS TO PRODUCE FERMENTATION, THE END PRODUCT BEING BUBBLES OF CARBON DIOXIDE. THESE, IN TURN, EXPAND AND CAUSE THE DOUGH TO RISE.

IF THE STATEMENT LISTED BELOW IS A STATED ASSUMPTION IN THE ABOVE PARAGRAPH, CIRCLE THE *A*. IF THE STATEMENT IS AN UNSTATED ASSUMPTION, CIRCLE THE *B*.

A GAS CAUSES YEAST TO RISE. 1167
*A. STATED
B. UNSTATED

DOUGH, IN A COLD ROOM, WILL NOT RISE. 1168
A. STATED
*B. UNSTATED

ENZYMES REDUCE THE DOUGH TO SIMPLER SUBSTANCES. 1169
A. STATED
*B. UNSTATED

PASTEUR WAS A GREAT SCIENTIST. 1170
A. STATED
*B. UNSTATED

YEAST ARE GREEN PLANTS. 1171
A. STATED
*B. UNSTATED

FERMENTATION IS CAUSED BY A SERIES OF CHEMICAL REACTIONS. 1172
*A. STATED
B. UNSTATED

IF CARBON DIOXIDE IS THE RESULT OF RESPIRATION AND FERMENTATION, THEN THESE TWO PROCESSES ARE VERY SIMILAR. 1173
A. STATED
*B. UNSTATED

****

DRUGS

THE STUDENT CAN DEMONSTRATE KNOWLEDGE OF PHARMACOLOGICAL DEFINITIONS BY LISTING THE TWO DETERMINING FACTORS OF DRUG ABUSE. %1¤ 0124

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

FROM A PHARMACOLOGICAL POINT OF VIEW, DRUG ABUSE IS DETERMINED BY 0843
A. THE WILLFUL MISUSE OF DRUGS THAT CAN BE HARMFUL TO THE USER AND IS ILLEGAL.
*B. THE WILLFUL MISUSE OF DRUGS THAT CAN BE HARMFUL TO THE USER AND TO SOCIETY.
C. THE WILLFUL MISUSE OF DRUGS THAT CAN BE HARMFUL TO SOCIETY AND IS ILLEGAL.
D. ALL OF THE ABOVE

IN ANALYZING A HYPOTHETICAL CASE, THE STUDENT CAN DISTINGUISH BETWEEN A DRUG USER AND A DRUG ABUSER. %4¤ 0125

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A MAN WHO IS USING A DRUG AND NOT ABUSING IT WILL 0844
A. NOT BE SURE OF THE DRUG,S PURITY.
B. INCREASE THE DOSAGE AS HE DEEMS NECESSARY.
*C. FOLLOW THE DIRECTIONS GIVEN ON THE BOTTLE.
D. PURCHASE IT FROM HIS FRIEND BECAUSE IT IS MORE CONVENIENT FOR HIM.

A SEVENTH GRADE BOY WHO IS A DRUG ABUSER MOST LIKELY WILL *NOT* 0845
A. TAKE THE DRUG BECAUSE OF THE DARE.
*B. PURCHASE THE DRUG FROM A PHARMACIST.
C. TAKE THE DRUG TO BELONG TO A GROUP.
D. KNOW HE IS VIOLATING THE LAW.

A LADY HAD A PRESCRIPTION FILLED AT THE DRUG STORE. THE LABEL READ, --TAKE TWO TABLETS EVERY 4 HOURS.-- TWO HOURS AFTER TAKING THE PRESCRIBED DOSE SHE EXPERIENCED NO EFFECTS SO SHE TOOK ONE MORE TABLET. SHE WAS A 0847
A. DRUG USER.
*B. DRUG ABUSER.
C. THERE ISN,T ENOUGH INFORMATION GIVEN TO TELL IF SHE IS A DRUG USER OR AN ABUSER.

****

WHEN GIVEN A HYPOTHETICAL CASE, THE STUDENT CAN IDENTIFY THE ABUSE OF STIMULANT DRUGS BY SELECTING THE ABUSED DRUG. %2¤ 0126

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A TRUCK DRIVER DELIVERING QUICKLY PERISHABLE FRUITS TO LOS ANGELES IS DEPENDING ON A DRUG TO ALLOW HIM TO MAKE THE DRIVE WITHOUT HAVING TO STOP TO SLEEP. THIS DRUG THE DRIVER IS ABUSING IS A 0848
A. DEPRESSANT.
B. PSYCHOTOGEN.
C. PHENOLBARBITAL.
*D. STIMULANT.

MORE SPECIFICALLY, THE TRUCK DRIVER IN THE PREVIOUS ITEM WAS MOST PROBABLY ABUSING 0849
*A. AN AMPHETAMINE.
B. A BARBITURATE.
C. MORPHINE.
D. A TRYPTAMINE DERIVATIVE.

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF A STIMULANT DRUG AND ITS FUNCTION BY MATCHING IT WITH ITS DEFINITION AND FUNCTION. %2¤ 0127

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A DRUG THAT ALLOWS A STRONGER THAN NORMAL ELECTROCHEMICAL IMPULSE TO TRAVEL FROM ONE NEURON TO ANOTHER WOULD BE A 0865

*A. STIMULANT.
B. DEPRESSANT.
C. PRODUCT OF CHRONIC USAGE.
D. HALLUCINOGEN.

****

GIVEN A HYPOTHETICAL SITUATION, THE STUDENT CAN APPLY HIS UNDERSTANDING OF DEPRESSANTS AND STIMULANTS BY SELECTING THE LIKELY EFFECTS ON THE ABUSER. %2¤ 0128

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A MAN HAS BEEN TAKING A STIMULANT FOR 33 HOURS. AFTER THE PERIOD OF STIMULATION FROM THE DRUG HAS WORN OFF, HE WILL BE 0873

A. BACK TO NORMAL FEELINGS.
B. STIMULATED TO A HIGHER DEGREE THAN HE WAS BEFORE.
*C. IN A PERIOD OF DEPRESSION.
D. NONE OF THE ABOVE

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF DEPRESSANT DRUGS BY SELECTING THE DRUG ABUSED IN GIVEN SITUATIONS. %1¤ 0129

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A MAN HAS BEEN ABUSING A DRUG WHICH AT FIRST CREATED A FEELING OF EUPHORIA, BUT NOW HE TAKES THE DRUG JUST TO FEEL NORMAL. THIS MAN IS PROBABLY ABUSING SOME DRUG CLASSIFIED AS A 0875

*A. DEPRESSANT.
B. HALLUCINOGEN.
C. STIMULANT.
D. TRYPTAMINE DERIVATIVE.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE MEANING OF DEPRESSANT DRUGS BY SELECTING ITS DEFINITION AND FUNCTION. %2¤ 0130

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A DEPRESSANT DRUG IS ONE WHICH WILL THE FUNCTION OF A CELL, TISSUE, OR ORGAN. 0876

A. INCREASE.
*B. DECREASE.
C. PRODUCE.
D. HAVE NO EFFECT ON

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF THE TERM *EUPHORIA* BY SELECTING ITS DEFINITION. %1¤ 0131

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

EUPHORIA IS DEFINED AS 878
A. A FEELING OF ILLNESS.
B. A FEELING OF PANIC.
*C. A FEELING OF WELL BEING.
D. NONE OF THE ABOVE

****

GIVEN A LIST OF COMPOUNDS WHOSE EFFECTS ARE KNOWN THE STUDENT WILL DESIGNATE WHICH COMPOUND PRODUCES A FEELING OF EUPHORIA. %1□ 0132

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A FEELING OF EUPHORIA WOULD MOST LIKELY BE PRODUCED AFTER 0879
*A. TAKING AN ANTIHISTAMINE SUCH AS CONTAC.
B. QUICKLY CONSUMING 2 CANS OF COKE.
C. TAKING AN AMPHETAMINE SUCH AS BENZEDRINE.
D. HAVING A TEMPERATURE OF 102 F.

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF DEPRESSANTS BY IDENTIFYING THE TYPE OF DEPRESSANT %SUCH AS ETHYL ALCOHOL, OPIATES, BARBITUATES, INHALANTS, OR MARIJUANA□ WHICH IS BEING ABUSED IN A GIVEN SITUATION. %7□ 0133

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A COMPOUND THAT, CONTRARY TO MOST PEOPLES BELIEF, IS A DEPRESSANT DRUG, IS 0880
A. SLEEPING PILLS.
B. NICOTINE.
*C. ETHYL ALCOHOL.
D. TRANQUILIZERS.

A MAN HAS BEEN ARRESTED ON DRUG ABUSE CHARGES 19 TIMES, AND HAS SPENT 12 OF THE PAST 21 YEARS IN REFORM SCHOOLS, JAILS, AND PRISONS. ALL OF THESE ARRESTS AND IMPRISONMENTS WERE DUE TO THE POSSESSION AND ABUSE OF DEPRESSANT DRUGS. THIS ABUSED DRUG MOST LIKELY IS 0881
A. AN INHALANT.
B. A BARBITURATE.
C. A TRYPTAMINE DERIVATIVE.
*D. AN OPIATE.

MORE SPECIFICALLY THE MAN IN THE PREVIOUS ITEM WAS MOST LIKELY ABUSING 0882
A. L.S.D.
*B. HEROIN.
C. PHENOLBARBITAL.
D. TOLUENE.

A 30 YEAR OLD LADY GOES TO A PARTY AND ABUSES A DEPRESSANT DRUG. THIS DRUG MOST LIKELY IS 0883
*A. ETHYL ALCOHOL.
B. CODINE.

C. TRANQUILIZERS.
D. TOLUENE.

IN LOWER ANIMALS, MARIJUANA ACTS AS A 886
A. STIMULANT.
*B. DEPRESSANT.
C. PSYCHOTOGEN.
D. BOTH B AND C

****

GIVEN A HYPOTHETICAL CASE, THE STUDENT WILL DEMONSTRATE AN UNDER- 0134
STANDING OF PSYCHOTOGENS BY IDENTIFYING IT AS THE ABUSE OF A
PSYCHOTOGENIC. %2□

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A TRUCK DRIVER WENT TO A PARTY WITH SOME FRIENDS. ONE OF THE 0888
PARTY MEMBERS HAD BROUGHT A DRUG TO THE PARTY AND PERSUADED THE
TRUCK DRIVER TO ACCOMPANY HIM IN THE ABUSE OF THE DRUG. AN HOUR
AFTER THE DRUG WAS TAKEN, THE DRIVER BEGAN TO SEE THINGS HE HAD
NEVER SEEN BEFORE, HEAR THE SOUNDS OF THE FLOOR CRACKING AS THE
PARTY GUESTS MOVED ABOUT, AND BEGAN TO TASTE THE COLOR RED. THE
DRUG BEING ABUSED BY THE TRUCK DRIVER IS PROBABLY A
A. DEPRESSANT.
*B. PSYCHOTOGEN.
C. PHENOLBARBITAL.
D. STIMULANT.

THE TRUCK DRIVER IN THE PREVIOUS ITEM IS EXPERIENCING 0889
A. EUPHORIA.
*B. HALLUCINATIONS.
C. DISPHORIA.
D. ALL OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE KNOWLEDGE OF PSYCHOTOGENICS BY 0135
SELECTING THEIR CORRECT DEFINITION AND FUNCTION. %1□

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010
THE USE OF A PSYCHOTOGENIC DRUG CAN 890
A. PRODUCE HALLUCINATIONS.
B. PRODUCE MENTAL CHANGES.
C. RESULT IN PSYCHOTIC BEHAVIOR.
*D. ALL OF THE ABOVE

****

GIVEN A HYPOTHETICAL CASE, THE STUDENT CAN DISTINGUISH BETWEEN 0137
ACUTE OR CHRONIC DRUG USE OR ABUSE BY SELECTING THE DESCRIPTION
WHICH MATCHES EACH CASE. %2□

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

IN WHICH OF THE ABOVE CASES IS A DRUG BEING ABUSED0 0896
A. A DIABETIC TAKES A SHOT OF INSULIN EVERY MORNING.
B. A MAN TAKES ANTIHYSTAMINE TO CURE HIS COLD.

*C. A LADY TAKES A DOSE OF L.S.D. TO SEE WHAT IT IS LIKE.
D. A GIRL TAKES TWO ASPIRIN TO RELIEVE HER HEADACHE.

WHICH OF THE ABOVE CASES IS AN EXAMPLE OF CHRONIC DRUG USAGE0 0897
*A. A DIABETIC TAKES A SHOT OF INSULIN EVERY MORNING.
B. A MAN TAKES ANTIHYSTAMINE TO CURE HIS COLD.
C. A LADY TAKES A DOSE OF L.S.D. TO SEE WHAT IT IS LIKE.
D. A GIRL TAKES TWO APSIRIN TO RELIEVE HER HEADACHE.

WHICH OF THE FOLLOWING IS AN EXAMPLE OF ACUTE USAGE0 0898
A. A MAN PHYSICALLY DEPENDENT UPON HEROIN TAKES TWO SHOTS A DAY.
B. A GIRL WITH A BROKEN LEG HAS BEEN TAKING 2 ASPIRIN EVERY 4 HOURS FOR THE LAST SEVEN WEEKS.
*C. A MAN WAS GIVEN A BOTTLE OF 50 PILLS BY HIS DOCTOR. HE IS TO TAKE 3 PILLS EACH DAY UNTIL THEY ARE ALL USED.
D. NONE OF THE ABOVE

****

THE STUDENT CAN SHOW KNOWLEDGE OF THE CONCEPT THAT THE PURITY AND DILUTENT OF A DRUG CAN CONTRIBUTE TO THE EFFECTS OF THE DRUG, AND THAT ONE CANNOT BE SURE OF THIS PURITY OF THE DRUG WHEN IT IS PURCHASED BY ILLEGAL MEANS BY SELECTING THESE FACTORS FROM A GROUP OF AFFECTING FACTORS IN A HYPOTHETICAL SITUATION. %1¤ 0142

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A STUDENT PURCHASES A DRUG FROM A STREET-CORNER-PUSHER. THE AFFECTING FACTOR ONE SHOULD BE *MOST* CONCERNED ABOUT WOULD BE 0920
*A. THE PURITY OF THE DRUG.
B. THE RELIABILITY OF THE PUSHERS.
C. THE PRICE CHARGED FOR THE DRUG.
D. THE LEGALITY OF THE PURCHASE.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE DEFINITION OF TOLERANCE BY SELECTING ITS CORRECT DEFINITION FROM A LIST. %1¤ 0144

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A PROGRESSIVE REDUCTION IN RESPONSE TO A CERTAIN DOSAGE OF A DRUG IS KNOWN AS 0927
A. DELAYED RESPONSE.
B. PSYCHOLOGICAL DEPENDENCE.
*C. TOLERANCE.
D. ALL OF THE ABOVE

****

THE STUDENT WILL DEMONSTRATE AN UNDERSTANDING OF ABSOLUTE TOLERANCE, NON-ABSOLUTE TOLERANCE AND CROSS TOLERANCE BY SELECTING THE TYPE OF TOLERANCE INVOLVED IN A HYPOTHETICAL CASE. %3¤ 0145

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A MAN DRINKS 12 CUPS OF COFFEE IN THE MORNING, BUT AFTER DRINKING 0928

THE SEVENTH CUP, HE EXPERIENCES NO FURTHER STIMULATION. THIS MAN HAS DEVELOPED A/AN TO THIS DRUG.
*A. ABSOLUTE TOLERANCE
B. NON-ABSOLUTE TOLERANCE
C. CROSS TOLERANCE
D. PHYCHOLOGICAL TOLERANCE

A BOY IS ABUSING A DRUG, BUT AFTER A SHORT PERIOD OF TIME HE FINDS THE DRUG NO LONGER PRODUCES EUPHORIA, SO HE INCREASES THE DOSAGE AND AGAIN EXPERIENCES EUPHORIA. THIS BOY HAS DEVELOPED A/AN TO THIS DRUG. 0929
A. ABSOLUTE TOLERANCE
*B. NON-ABSOLUTE TOLERANCE
C. CROSS TOLERANCE
D. PHYCHOLOGICAL TOLERANCE

AFTER 6 MONTHS, THE BOY IN THE PREVIOUS QUESTION SWITCHED TO A SIMILAR DRUG BECAUSE THE DOSAGE NEEDED TO PRODUCE EUPHORIA BECAME TOO EXPENSIVE. UPON SWITCHING TO THE NEW DRUG, HE FOUND HE NEEDED A LARGE DOSAGE OF IT ALSO. THIS BOY HAS DEVELOPED A/AN TO THIS DRUG. 0930
A. ABSOLUTE TOLERANCE
B. NON-ABSOLUTE TOLERANCE
*C. CROSS TOLERANCE
D. PSYCHOLOGICAL TOLERANCE

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE DEFINITION OF HABITUATION BY SELECTING IT FROM A LIST OF ALTERNATIVES. 0146

SELECT THE PHRASE THAT BEST COMPLETES THE STATEMENT. 0010

A PSYCHOLOGICAL DEPENDENCE UPON A DRUG IS USUALLY REFERRED TO AS 0931
A. ADDICTION.
B. TOLERANCE.
C. DEGENERATION.
*D. HABITUATION.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE DEFINITION OF ADDICTION BY SELECTING IT FROM A LIST OF ALTERNATIVES. %1¤ 0147

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A PHYSICAL DEPENDENCE UPON A DRUG IS USUALLY REFERRED TO AS 0933
*A. ADDICTION.
B. TOLERANCE.
C. DEGENERATION.
D. HABITUATION.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE CHARACTERISTICS OF DRUG INTERACTION BY SELECTING THE TYPE OF INTERACTION INVOLVED IN A GIVEN SITUATION. %1¤ 0148

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A MAN TAKES TWO KINDS OF DRUGS BEFORE GOING TO BED WITH THE IDEA THAT THEY WILL PUT HIM TO SLEEP. THIRTY MINUTES LATER HE REALIZED THAT NOTHING HAS HAPPENED. THE EFFECT OF THE INTERACTION OF THESE DRUGS HAS BEEN 0934

A. REACTION.
B. POTENTIATION.
*C. COUNTERACTED.
D. TOLERATED.

****

THE STUDENT WILL SHOW KNOWLEDGE OF THE MEANING OF PHARMACOLOGICAL EFFECTS BY SELECTING ITS CORRECT DEFINITION. %1□ 0149

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

PHARMACOLOGICAL EFFECTS ARE THOSE ACTIONS OF DRUGS ON 0935

A. FARM ANIMALS.
*B. LIVING THINGS.
C. PLANTS.
D. ALL ANIMALS.

****

GIVEN A HYPOTHETICAL CASE, THE STUDENT WILL SHOW UNDERSTANDING OF USES, HAZARDS, AND SIDE EFFECTS OF DRUGS BY SELECTING THE MOST PROBABLE DRUG USED IN A GIVEN SITUATION. %14□ 0150

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

A DRUG WHOSE THERAPEUTIC USES INCLUDE TREATMENT OF DEPRESSION AND OVERWEIGHT IS 0936

A. METHYLPHENICLATE.
B. BARBITURATE.
C. NICOTINE.
*D. AMPHETAMINE.

A USEFUL ACTION OF NICOTINE IS TO 937

A. DECREASE ONES APPETITE.
*B. KILL BUGS.
C. CAUSE AN IRREGULAR HEART BEAT.
D. BOTH A AND C

PROBABLY THE MOST MISUSED DRUG DURING THE HISTORY OF MAN HAS BEEN 0938

A. MARIJUANA.
B. OPIUM.
*C. ETHYL ALCOHOL.
D. MESCAL COMPOUNDS.

THE GREATEST PRESCRIBED THERAPEUTIC USE OF ETHYL ALCOHOL TODAY IS AS A/AN 0939

*A. ANTISEPTIC.
B. STIMULANT.
C. ANAESTHETIC.
D. SEDATIVE.

THE GROUP REFERRED TO AS THE NARCOTIC ANALGETICS ARE MORE 0940

COMMONLY REFERRED TO AS THE
*A. OPIATES.
B. BARBITURATES.
C. ALCOHOLS.
D. AMPHETAMINES.

DOCTORS MOST USUALLY PRESCRIBE NARCOTIC ANALGETICS TO 0941
A. PRODUCE SLEEP.
B. STIMULATE THE MEDULLA.
*C. RELIEVE PAIN.
D. PRODUCE INTOXICATION.

CECIL HAS BEEN ABUSING A SPECIFIC NARCOTIC ANALGETIC FOR SEVERAL YEARS. WHICH OF THE FOLLOWING STATEMENTS IS MOST LIKELY TO BE TRUE ABOUT CECIL? 0942
A. HE HAS DEVELOPED A NON-ABSOLUTE TOLERANCE TO THE DRUG.
B. HE STARTED ABUSING THE DRUG TO EXPERIENCE A FEELING OF EUPHORIA.
C. HE HAS PIN-POINT PUPILS AFTER TAKING A DOSE OF THE DRUG.
*D. ALL OF THE ABOVE

THE MOST COMMON EXAMPLE OF THE SEDATIVE-HYPNOTICS ARE THE 0943
A. OPIATES.
*B. BARBITURATES.
C. ALCOHOLS.
D. AMPHETAMINES.

AFTER USING A SEDATIVE OR HYPNOTIC FOR A LONG PERIOD OF TIME, THE ABUSER MOST LIKELY WILL DEVELOP A/AN 0944
A. ABSOLUTE TOLERANCE.
B. NON-ABSOLUTE TOLERANCE.
C. PSYCHOLOGICAL DEPENDENCE.
*D. BOTH B AND C

CECIL WAS GIVEN A MINOR TRANQUILIZER BY A DOCTOR. CECIL WAS MOST LIKELY SUFFERING FROM 0945
A. ALCOHOLISM.
*B. EXCESSIVE ANXIETY.
C. A LACK OF STIMULATION.
D. ALL OF THE ABOVE

DOCTORS MOST USUALLY PRESCRIBE HALLUCINOGENIC DRUGS TO 0946
A. RELIEVE PAIN.
B. PRODUCE SLEEP.
C. PRODUCE EUPHORIA.
*D. NONE OF THE ABOVE

FOR A NORMAL U.S. CITIZEN, PROBABLY THE GREATEST DANGER FROM TAKING A HALLUCINOGENIC DRUG WOULD BE THE 0947
A. SUBCULTURE HE WOULD FALL INTO.
B. PSYCHOSIS THAT WOULD FOLLOW.
C. HALLUCINATIONS THAT WOULD TAKE PLACE.
*D. POSSIBILITY OF A FLASHBACK.

MARIJUANA IS FOUND IN THE LEAVES OF THE PLANT. 0948
A. TOBACCO
B. MARIJUANA
*C. CANNIBUS
D. HOPS

****

THE STUDENT WILL APPLY HIS KNOWLEDGE OF THE POSSIBLE EFFECTS OF EXPERIMENTATION WITH A DRUG BY SELECTING POSSIBLE RESULTS FROM EXPERIMENTATION. %2n 0151

SELECT THE WORD OR PHRASE THAT BEST COMPLETES THE STATEMENT. 0008

WHICH OF THE FOLLOWING STATEMENTS IS/ARE CORRECTO 0952

A. A PERSON ABUSING A DRUG ONLY ON MONDAY, THURSDAY, AND SATURDAY WILL NOT BECOME PHYSICALLY NOR PSYCHOLOGICALLY DEPENDENT UPON THE DRUG.
B. EXPERIMENTING WITH A DRUG ONCE WILL NOT HAVE HARMFUL EFFECTS ON YOU.
C. ALL OF THE ABOVE STATEMENTS ARE CORRECT.
*D. NONE OF THE ABOVE STATEMENTS ARE CORRECT.

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